

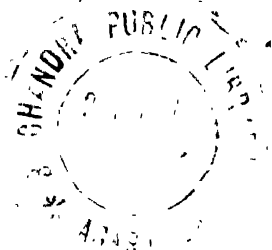
LIVE WISELY. LIVE WELL!

*An explanation of the value of Air,
Water, Sunlight, Movement and
Repose as natural healing factors*

by

BERNHARD DETMAR, M.D., PH.D. (Berlin)

Translated from the German and edited
by Robin Kemball.



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*“ To enjoy health and long life is everyman's wish,
but few do anything about it.”*

Father Sebastian Kneipp.

BIOGRAPHICAL NOTE

BERNHARD DETMAR, M.D., Ph.D.—Born July 4th, 1885, in Ahlen, Westphalia, one of a numerous family of age-old handicraft and rural traditions. After the usual preparatory education, in which he specialised in classics, Detmar studied at several universities, including Munich, Münster (Westphalia), Leipzig, and Berlin, where he read philosophy, natural science, and medicine. His lecturers included Alois Riehl (philosophy), Prof. Dr. Bier (surgery), and Prof. Löffler (bacteriology). At Berlin, he qualified for his degrees in philosophy and medicine, also passing his state examinations there. He refused an invitation to teach at the philosophical faculty in Berlin on the grounds that he first wished to gain the necessary practical experience as a medical practitioner. Detmar served throughout the First World War as a doctor, afterwards setting up in practice as a country doctor in Mudau, a small market town in Baden; two years later, he took over the leadership of a sanatorium for nervous disorders in Immendingen. In 1916 he moved to Munich, and spent eight years in practice as a nerve specialist. In 1924, wishing to return to the country, he took over the practice of Dr. Kleinschrod, the first medical collaborator of the world-famous Father Kneipp, in Bad Wörishofen, a small spa not far from Munich. Apart from a series of articles dealing largely with social, cultural, and educational problems in the weekly review "Der Türmer," followed by contributions regarding nervous problems in various medical periodicals, Detmar found little time for writing, and his first book did not appear until 1939. This was entitled: "The Natural Treatment and Cure of Nervous Diseases." The first edition was rapidly sold out, but the author refused to make the amendments demanded by

the censors for a second edition, so that the book was not reprinted. He later learned from a source in close contact with the authorities of that time that his treatment of "hysteria" and his pronounced Christian attitude had met with disfavour "higher up." The book is due to reappear in a Swiss edition at a later date.

N.B.—For further details regarding the author and his work, cf. Translator's Preface, p. 9.

OTHER WORKS BY THE SAME AUTHOR IN ENGLISH

"Nervous Disorders and Hysteria—Disease or Character Defect?" (Their nature, cause, symptoms, consequences, and treatment.) Translated and edited by Robin Kemball. Parallel with this edition.

TRANSLATOR'S PREFACE

I am happy to have had the opportunity of translating this work,* because—quite apart from its intrinsic worth—I feel that it brings a fresh outlook into English literature on the subject of natural healing, which, after the initial impetus given by the Germanic pioneers of the last century, has since tended to develop along rather too narrow and stereotyped lines.

Kneipp, of course, ~~was~~ world-famous even in his own day ; but his influence—rightly or wrongly—cannot be said to have stood its ground in the English-speaking world. I believe this is largely due to his “ amateur status,” and to the purely empirical nature of his work. Fortunately, however, as the author points out in this book, Kneipp had the modesty and good sense to realise that his work could only endure and bear fruit if he succeeded in winning the interest and co-operation of capable and courageous doctors. First among these was Dr. Franz Kleinschrod, who carried on Kneipp’s practice after his death : he was in turn succeeded by L. Detmar, who thus represents the second generation of the Kneipp school. From Kleinschrod, Kneipp’s teaching received the scientific explanation and backing it needed in order to gain acceptance among the Western rationalistic world ; Dr. Detmar’s chief contribution lies in having placed hydrotherapy in its proper perspective beside other forms of natural treatment, and, in particular, in having developed these natural healing methods and applied them in the psychical, as well as the purely physical sphere.† It would be hard to think of anyone better qualified to do so—doctor of medicine,

doctor of philosophy, and pupil of Kneipp's successor, all in one.

This book thus treats old subjects in a new light, and new subjects from an unusual but authentic point of view. We may not agree with all that Dr. Detmar has to say, but none of us, I feel, can fail to be impressed by the sincerity, the fearless directness, and the rare combination of simplicity and mastery of subject that the author reveals as the result of his thirty and more years' experience as a practitioner in natural healing. It is my sincere hope that this work will arouse the interest of many to whom such teachings have previously remained a more or less closed book, and will come—to those already in some measure acquainted with them—like a draught of fresh air into what is all too often (if they will forgive me) the rather too dogmatic, rigid, and sluggish atmosphere in which natural healing is tending to stagnate.

My grateful thanks go first to Dr. Detmar in person, for his ready help in solving one or two difficult points that were beyond me, especially as regards the German bibliography: secondly, to my good friend Dr. Ralph Bircher, whose immense knowledge and experience also stood me in good stead on more than one occasion: and finally to Messrs. Bowes & Bowes—faithful friends from my Cambridge days—who assisted me in tracing English editions of some of the works mentioned in the text.

ROBIN KEMBALL.

La Conversion,
près Lausanne.

INTRODUCTION

For thousands of years, man has waged a hard, relentless struggle against the forces of Nature, a struggle for bare existence which has continued day and night. Wind and storm, heat and cold, water and drought, ice and snow, even the very Earth itself, with earthquakes and fire, constituted a perpetual threat to life and health. Like his animal companions, mankind wandered over the surface of the earth, in search of his food, his daily bread ; and like them, he also had to fight for his pasture lands. His allies were cunning and brute strength, his weapons crude and simple, like those still used by primitive tribes today. Muscle-power, skill in stone-slinging and club-wielding—these together assured him of superiority. His house was a cave—either natural, or artificially excavated ; his food was raw, like that of the animals—special preparation became possible only with the discovery of fire. Whether his food was animal or vegetable, we do not know—probably both, inasmuch as he had to be content with what Nature offered him. Our ancestors were hunters and hunted at one and the same time. As hunters, they probably consumed their prey ; as hunted, they must often have been happy to find wild fruits and herbs to eat. Abundance and shortage followed close on each other's heels ; abundance seldom, shortage more often than not. Times of definite famine and hunger were also common. Even in those days, pestilence raged and diminished the population. Clothing consisted largely of the skins of slain animals and formed but needy protection against damp and cold.

Our primitive ancestors, the wild men of their age, were exposed to the forces of Nature almost without protection. True, we are told that culture existed, even in those days—

drawings have been found in caves which some choose to depict as the expression of an albeit primitive form of art. But can we call by the name of art a scribbling of a small child or a wild man? The answer to this question is given by Dr. Hans *Prinzhorn* in his work "*Bildnerei der Geisteskranken*" ("*Sculpture of the Mentally Unbalanced Mind*"). No—primitive man of early times was an animal living free and wild. His life was taken up in affording protection to his family and himself. His senses were sharp, his bones and muscles strong and practised, his mind was alert, and sought to replace, by intelligence and cunning, what Nature withheld from him. He fought out his own superiority and became lord of creation. The man who did not fall a prey to plague, wounds, or catastrophe of some kind, remained healthy, faultless. Health was the very precondition of life itself.

We do not know how long this wild, unsettled life of our forefathers lasted, whether for tens or for hundreds of thousands of years—the story lies buried in the darkness of an obscure and primitive age. Mankind first entered the light of history when he ceased leading a purely nomadic existence. Even at this stage, the beginnings are hazy and indistinct, but gradually emerge, clearer and clearer. We know, at any rate, that only when man became to some extent a settler could there be a beginning of what we know as culture. The beginning of culture was agriculture, and—closely connected with it—the building of houses, houses in which to live, houses for work or storage, and houses for the Most High, i.e. temples to God. Culture and religion are inseparable. Culture developed, and took on such different forms as husbandry, handicrafts, and trade. Then came the arts and sciences. The education of the individual assumed a central position in culture. Body and mind began to be trained methodically, and elevated to the highest degree of harmonious education. Culture, education, and religion became an inseparable unity, whose roots were firmly embedded in earthly soil, but which strove upwards, at its highest point, towards Heaven, towards

God. Men were healthy and happy. True, the struggle for existence continued, but there was no longer any direct fear, any imminent danger of death, emanating from the savage world about them. Apart from war and pestilence, they lived a peaceful, sensible life amongst themselves.

Manners grew more refined, the comforts of life increased, the individual found more time for an undisturbed life amongst family and society. Civilisation spread its wings, and made use of all the advantages that culture had created. Nobody bothered themselves about questions of health. People created from the fullness of what was, and lived, without knowing it, on the sources of strength which their predecessors had stored up in harder and more wearisome times. Slowly, imperceptibly, civilisation slunk into the place formerly occupied by a healthy culture. A new age broke. The "dark" Middle Ages, in reality a period of simple living and a supreme and flourishing culture, fell into oblivion and were even cursed and held in contempt. Tangible, material, comfortable, smooth living won the upper hand. No longer was there need to worry about Nature, which had now become, generally speaking, quite harmless. A warm house offered protection from wind, cold, and storm : there was food in abundance. Strong walls afforded protection from wild beasts or robber bands. The elements, that had been so much feared, whose hard chastisement had kept men strong and healthy—these elements became the object of scientific research work which aimed at stripping them of their secrets and pressing them into the service of man's own selfish and material ends. Humility and respect before the secrecy and nobility of Nature faded away, and were succeeded by the desire to discover all, to know all, and thereby to dominate all. Amazing discoveries and inventions were made. Sources of energy were subjected, the use of which changed man's mode of living from its very foundations. We now have light and warmth according to our desires. We control steam and electricity. We are independent of heat and cold. We make the waters serve us, and dictate

in large measure the course they shall take. We have machines, which—obedient slaves—produce for us whatever we wish. We fondly imagine that we are progressive and free. But one thing we have forgotten: Nature gives nothing for nothing; everything has to be paid for in one way or another. We have to pay with blood and sweat, with our health and our strength. Our presumption has led us far away from Nature, who remains, for all that, our Mother, and we a part of Her. We have grown bereft of instinct, unnatural—yes, even anti-natural. We have challenged Nature, and done violence upon Her, and She has given us a clear reply: we are degenerate and diseased. Culture is dead, and super-civilisation reigns over us, destroying that small part of health that still remains to us.

Can we still save ourselves? Yes, if we earnestly *will* it. We shall not be saved by repeating the password, "Back to Nature." Only fools and dreamers can suppose it is possible to return to the savage mode of a primitive age. Even supposing that it were possible, it would be a foolhardy undertaking that would inevitably crumble us into dust. That path is closed to us for ever. We are now living in the mechanised, soulless world of today, we have to live in it, and we have to see how we can fit ourselves into it without permanent damage to ourselves. The problem can yet be solved. With such strength and reserves of health as remain to us, we must go about things wisely and thriftily, cultivating and increasing our resources, in order to be able to encounter life's dangers. Civilisation itself gives us the means to do this. We must accept the good that it offers us, and avoid the degenerate. From Nature, too, we must take those powers that help us to keep our health, and remain on our guard against the destructive ones. Let us make an end of the ceaseless fears that afflict modern man, and let us tread wisely, prudently, the sensible, healthy, middle path. Avoid all extremes, and do each day what needs to be done. Everything that life brings us is at once good and evil—it depends

on ourselves alone which form it takes. Everything that Nature offers us can be the means of our misery or our joy. The most precious medicine becomes poison if we use it the wrong way.

Everything that maintains health is also capable of restoring health to those already sick. Disease is nothing but the expression of a disturbance of balance within our organism. All disturbances arise where the negative, destructive forces predominate over the positive, constructive ones. The powers that undermine our health may be physical or spiritual. There are physical and spiritual poisons. In the topsy-turvy world of today the spiritual poisons often constitute a greater evil than the tangible, physical ones. We are in many ways powerless in the face of these threats to our health. On the other hand, we possess a veritable treasure of positive forces within ourselves. We call it energy, staying-power, or vitality. So long as we ourselves do nothing to weaken this "inner doctor" or render him ineffective by wrong living habits, no external foe has power to touch us. *Disease, then, is the result of a false, unnatural way of living*, extending over years or even decades. This false way of living need not necessarily have been incurred by our own guilt. We have also to expiate the errors in living committed by our forbears. That is the deeper meaning behind the much talked of theory of heredity. No disease, as such, can be inherited ; but we *can* inherit an already weakened power of resistance to disease. If we continue the faulty mode of living which we have likewise inherited, fate catches up with us sooner or later, and strikes us down with disease ; we can only overcome this disease if we recognise this fact, give up our wrong mode of living, and adopt a new one, the right one, in its place. *Every disease is the expression of a crisis in one's life*. Our duty it is, with the help of the doctor, to replace disease-building habits by such as will overcome disease and permanently maintain our good health, once recovered.

In analysing and criticising our previous mode of living,

we must forget nothing. We are creatures of the earth and, as its children, bound unto it. The Earth feeds us. We must examine minutely whether we have always made the best use of the gifts it has offered us, or which we have had to wrench from it with our toil and our sweat. The question of nutrition must rank high in our councils. Diet, in its narrower sense, is of such importance that a whole book is to be devoted to it alone. To those of my readers who are already interested in this vitally important subject, I recommend the works of the famous Swiss, Dr. Max *Bircher-Benner*, the English Dr. Alexander *Haig*, the Danish Dr. Mikkel *Hindhede*, the German Dr. Karl *Röse*, the American Edward Hooker *Dewey*, and Dr. Robert G. *Jackson* of Canada.*

The Earth consists of land, water, and air. All life upon and within the Earth owes its origin and its subsequent existence to the sun, the generator of light and warmth. The amount of its life-giving energy that reaches plant, animal, and human life depends in the first instance upon the surrounding air. We are, it is true, children of earth, but we are creatures of air and of light also. Air, light, and sunshine are every bit as necessary to us as our daily food, and on us depends whether we wish to use these forces wisely, or whether we scorn them disdainfully and abuse them. So, too, with water; water, also, contains hidden powers of whose existence most men have never even dreamed. Our task it is to raise up these hidden treasures and to apply them in the service of our health. This is not the first time that this cry has been raised, nor will it be the last. For thousands of years, gifted doctors, as well as laymen of genius, have been calling our attention to the supreme importance of natural healing agents: light, air, sun, and water. "*Natura sanat, medicus curat—Nature heals, the doctor assists her.*" From Hippocrates, the greatest doctor of Ancient Greece, until the mighty

* For all books referred to in the text, including English translations, cf. Bibliography at the end of the book.—R. K.

Paracelsus Bombastus von Hohenheim, who rediscovered his teachings at the beginning of the New Age ; and from Paracelsus onwards until the present day, a whole chorus of voices has rung out, warning us to recognise Nature, the supreme healer, in all Her significance, and to take Her teachings to heart. Those interested in the history of natural healing are referred to "Naturheilkunde in Lebensbildern" ("Life Sketches of Natural Healers"), by Dr. Alfred Brauchle. The historical details given in later passages of this book are largely taken from this source.

Natural healing is as old as the hills ; yet its truths fall again and again a prey to man's forgetfulness. Again and again, men believed—and still believe—that they are cleverer than Nature, their Mother. Again and again, therefore, they have been—and continue to be—driven out of the paradise of happy, buoyant health. For utter health alone represents true happiness. And yet—again and again man falls victim to the whisperings of the Devil. In Paradise, it was the satanic temptation of the serpent that plunged him into the first great misfortune. "They wished to be as God." The creature made himself out to be the equal of his Creator. The punishment was banishment from Paradise. Misfortune and disease were the outcome, and thus it is even today. Blinded by the same Hybris, we refuse to live as simple beings bound up with Nature. *We* wish to be Lord and Master. *We* would arbitrarily dictate what is good and what is evil. *We* would give orders, to our own nature, as well as to that which surrounds us. *We* have found the stone of the sages, the "specific" remedy against each disease. And if our findings, on closer inspection, turn out to be so much vaporous vanity, we do not dream of turning about from the false path we have chosen, but rather continue down it, seeking new wonders. Thus we seek, and thus we find, ever new "infallible" remedies, which vanish into nothingness like all those that came before. Yet, nothing daunted, we continue to believe in magic, and magic cures, like the

cannibal savage of the South Seas, or the tom-tom negro of Central Africa. From this point of view, modern man is in a fair way to returning to the wild man of primitive times—only, *without* the latter's health and vitality.

How much longer shall we be content to wander round in circles upon the dangerous moor, like some weary traveller overtaken by fog or darkness? Let us turn back at last towards the eternal springs of our health and our strength! We must remember that, in addition to air, light, sun, and water, a sensible division and alternation between movement and repose also represents an essential factor in our state of health. Physical exercise is of the first importance for modern, sedentary, man; yet no more important than healthy exercise of mind and soul. "*Mens sana in corpore sano—a healthy mind in a healthy body.*" The twin sister of exercise is repose, and this must also be understood in a bodily, spiritual, and mental sense. Repose is, properly understood, but the opposite pole of movement; it may also be called internal movement. In external movement, our forces stream outwards and are transformed into constructive work; in repose, i.e. invisible, internal, movement, these forces reassemble, recover their strength, become rejuvenated, in order to equip themselves for new deeds.

Movement and repose may serve us as a symbol of the fundamental principle of all natural life. *This principle is called change.* There is nothing constant in the earthly world—everything is subject to perpetual change. Everything rigid or motionless is the enemy of life. Continual heat is death, as also perpetual cold. Uninterrupted rain or damp would destroy us as easily as endless drought. We must learn from Nature, our supreme teacher, and never force our living organism into any fanatical, rigidly enforced, one-sidedness. Air, light, sun and water, movement and repose, are all natural, vitalising factors, each of equal value, each connecting and completing the others. It is our task so to make use of them, at the right time and in the right place, that our vitality be strengthened, our

health promoted, our well-being increased, and our ability to work preserved unto the end of our days. If we carry this out properly, we shall meet with no early, unnatural end, thrust upon us by illness: we shall rather fade out in old age, without pain or torment of death, like a candle extinguished—and shall find eternal peace.

CHAPTER I

AIR, LIGHT, AND SUN

"Where air and sunlight enter, the doctor has no place."

I. General

Benjamin Franklin, famous discoverer and forerunner in the fight for North American independence, wrote to his friend Dr. Dubourg, in 1750 : " You know that cold water as a hardening agent has been popular here for a longish time, but it seems to me that the shock of cold water is, generally speaking, always too strong. I found it far more agreeable for my own constitution to bathe in another of the elements ; I mean, in fresh air. I therefore get up every morning and sit in my room, reading or writing, completely naked, for half an hour to one hour, according to the season. This air-bath is not unpleasant in the least ; and when, as often happens, I afterwards creep back into bed, before dressing, I complete my night's rest with a further hour or two of the most beautiful sleep imaginable. I have found no evil effects resulting from this habit, and believe, not only that it in no way harms my health, but on the contrary tributes to its maintenance. I should therefore like to try this air-bath in future as an energising, strengthen-

sun-baths were already well known and popular among the ancient Greeks and Romans. In the Middle Ages we hear little about them, and they seem to have fallen into disuse. Between 1750 and 1850, however, we find sun-baths recommended by isolated German physicians (Schubel, Döbereiner, Rosenbaum) and French physicians (Berthollet) in cases of leg ulcers, rachitis (rickets), and tuberculosis of the bones and

joints. The man who actually brought fresh-air therapy to life again, and subsequently fought for its adoption, was the Swiss Arnold *Rikli*, of Wangen on the Aare (1823-1906). As early as 1855, Rikli set up the first sanatorium for air and sun treatment in Veldes in Oberkrain.* It was from him that Dr. Heinrich *Lahmann* learned this form of treatment, and introduced it into his later world-famous sanatorium near Dresden, the "White Hart" (Weissen Hirsch). Moritz *Schreber*, the doctor and pedagogue famous for his "Schrebergärten,"† also stressed the necessity of sun-baths for children. This was during the 1850s. From about 1900 onwards, air and sunshine cures in Engadin, especially in Davos, acquired great importance in the treatment of pulmonary tuberculosis. About the same time, Dr. *Rollier* began his successful system of air—and more particularly sun—treatment for tuberculosis of the glands, bones, and joints, in Leysin, not far from Montreux. Today, Switzerland, with its magnificent, world-famous, high-altitude sanatoria, ranks first in this field.

2. *Air-baths*

What is an air-bath, and how does one take one? I do not intend to describe the sort of treatment carried out in the great spas and sanatoria. It is more important to show those many who, dependent upon themselves, want to keep themselves healthy and efficient, how one can carry out an air-bath at home without undue loss of time. Those who can do this much can automatically make effective use of the air-bath in cases of illness also.

One begins an air-bath by airing the bedroom. Even at night, the windows should remain more or less open,

* In those days, part of the Austro-Hungarian Empire. Today Veldes is in Yugoslavia, roughly half-way between Villach (Austria) and Ljubljana. The Slav name for Veldes is Bled.—R. K.

† "Schrebergärten" is the name given in Germany to small gardens or "plots" on the outskirts of large towns, in which the inhabitants of the interior grow their vegetables and send their children to play.

according to the temperature—except in periods of extreme cold. On waking, one should stretch oneself a few times in bed—giving perhaps a generous yawn in addition—making sure that one feels all one's limbs in the process. One should then throw back the bedclothes, stand up, take off one's nightshirt or pyjamas and step naked towards the open window. Here one should take a few deep breaths in, and even deeper ones out. Next, back into the room, keeping oneself moving about, and rubbing—either with the hands or with a towel—legs, arms, chest, abdomen, and back, and massaging, with alternate stroking and percussion movements, every group of muscles that one can reach. Breathing remains the central point—one must carry out a sort of lung gymnastics. Incidentally, the best method is to combine a clearly thought-out programme of physical exercises with the air-bath. No particular system need be followed, nor do I recommend following the rhythm of exercises by radio. Every man has his own rhythm, his own tempo, and these he must heed. His mood must always remain in harmony with his body. What matters is to exercise the individual muscles and groups of muscles systematically, one after another. This does not mean that it has all to be done in one morning. One can take one's time. It is sufficient if the whole body be exercised in this way over a number of days or even weeks. From time to time short pauses for relaxation must be introduced, pauses which are often more important for the tensed-up being of today than strengthening the muscles. On no account must one shiver or freeze—always keep warm. If one cannot achieve this at first, one should break off the exercises and get back into the warm bed. The first air-bath should only last a few minutes—say, five. Each succeeding one should be increased by a further minute, until fifteen minutes are reached. A daily air-bath, with exercises, for a quarter of an hour is quite sufficient.

It will often happen that, for some reason or other (personal mood, external temperature, etc.), one cannot hold out for long ; in such cases the length of the air-bath

must be reduced. No harm is done in cutting it down on such occasions to one minute only. The great point is the actual exposure of the completely naked body to the air, after the warm bed. Usually, it is a matter of three or four weeks until one becomes accustomed to the quarter-hour air-bath. When it is completed, one may either return to bed and rest a while longer, or else get dressed. After dressing, however, one should always take some further form of exercise, such as a short walk, or some physical work about the house.

If one is already a hardened air-bather, one can, providing the outside temperature allows, sit at one's desk and work quite naked or at most only lightly clad. In the warm season of the year, one can remain like this for hours, providing, of course, that conditions within the household allow. One's health is strengthened thereby, as *Franklin's* example shows. If one has one's own garden, it is advisable in the warm season to do one's gardening naked also—i.e. wearing only a pair of shorts. Anybody who can afford the time for this should certainly do so.

The air-bath is no sun-bath. The difference lies in the fact that the air-bather is essentially always on the move, partly in the sun, partly in the shade. Sick persons should always let a doctor explain to them exactly how they should take an air-bath. Naturally enough, an air-bath in the open air is even better than one in the bedroom. Whoever, therefore, is lucky enough to dispose of some peaceful spot on the edge of a forest, or in a small opening in some wood, should make use of it where possible. If a complete air-bath is impossible, one must be content with a partial one. Walking with bare legs, with or without sandals, is a wonderful cure, and whoever can should always go bare-legged and sandalled in fine weather. Perspiring feet, cold feet, and all other circulatory disorders of the feet disappear as soon as one goes barefoot. Off with your socks or stockings, if at all possible! The person who walks on a hot day in socks or stockings, his feet sweating, runs the risk of catching cold. When he rests after an hour's

walking, the sweat from the feet cannot evaporate ; it thus precipitates, cools off, and the cold is there ; how much misery and sickness has come from cold feet ! The arms, too, should be left bare, and exposed to the air. In summer, men may go walking quite comfortably in shorts. Quite apart from this, it will always be found possible to expose some part of the body or other to air and sunshine, for a longer or shorter period. At home, one should at once do away with cramping socks and shoes, and go around with bare legs and sandals—even in winter, providing the rooms be well heated, i.e. register between 59° and 68° F. This alone is a great gain for health and general well-being.

If one has not yet tried out the effects of the air-bath on oneself, it is as well to listen first to someone who already has greater experience in the matter. The best course is to consult a doctor of naturist leanings. If one is not altogether clear about one's state of health, or if one actually feels ill, a detailed examination by a doctor is first necessary. The stimulus of fresh air is, it is true, generally considered a mild one, but it is nevertheless strong enough to produce a sensible, albeit gradual, healthy revolution. Hence the necessity for the air-bath to be adapted exactly to the patient's constitution and his state of health at the time ; and only an experienced doctor can assess the constitution, which is of such decisive importance. Franklin, to judge from his own description, seems to have been of weak (asthenic) constitution, as inferred also by his remarks about cold water. One thing is certain—that certain types react better to a simple air-bath, whereas others (hikers, athletes, etc.), on whom this has little or no effect, prefer the stronger stimulus of water. Everything must be judged from the individual standpoint ; one must never generalise. As Fritz Reuter once put it " Wat dem eenen sin Uhl is, is dem anern sin Nachtgall." (" What is an owl to one man is a nightingale to another "—in other words, " one man's meat is another man's poison."—R. K.) Individual doctors and laymen who reject certain climatic

stimuli as being unsuitable for others, simply because they have, in their own cases, had poor or at least unsatisfactory experience of them, go too far. One must never confuse one's own constitution with that of the man next door. The better way is that of the expert who, in spite of his own preference for a particular stimulus, gives all others their due. And these experts, thank Heaven, form the great majority. With few exceptions, one may say that today all those concerned with natural healing tend to emphasise *all* the natural healing factors in Life.

The air-bath is not only of importance in the removal of disease, but also to a large extent for hardening, i.e. so acclimatising the person to his surroundings that he largely loses his tendency towards disease. It thus works preventively. A necessary complement to the air-bath is suitable clothing, which must be such as to allow the air, albeit softened and diminished in quantity, to make contact with the body. In other words, it must not seal off the body hermetically from the surrounding air. Tight collars should be dispensed with, and an open shirt with turn-down collar worn instead, preferably a rough-texture shirt made from coarse home-made linen. All tight-fitting or laced underwear should be discarded, such as corsets, under-pants, etc. The air must have free access, and body perspiration free escape. Those who imagine they cannot do without under-pants should wear them short, like bathing trunks, but wide open at the thigh. The material should be linen, wool or cotton. Long stockings reaching above the knees should be replaced by socks ending about half-way up the calf, and so made as to be held in place by the calf muscles alone. Garters or suspenders impede the circulation and are therefore unhealthy. The upper half of the lower leg, the knee, and the lower part of the thigh remain bare ; this applies to both men and women—apart, of course, from a pair of trousers or dress, as the case may be. The best protection against more intense cold is to wear somewhat thicker top clothing. One will naturally dress more warmly in winter than in summer. This is also true of the feet. It

really is not healthy for either young or elderly women to run about in the depth of winter in feather-weight silk stockings. I have come across cases amongst these vain creatures in which the skin has been frozen as far up as the middle of the thigh. In such cases, severe injury, with far-reaching effects, especially in the abdominal region, may result for the rest of their lives. On the other hand, one should go about barefooted (with or without sandals) even in winter, in warm rooms, so that the feet may be properly aired. Thick house slippers, often padded with fur, should be thrown away. On the other hand, one must naturally wear a long, thick coat or fur coat in mid-winter, when in the open, or when travelling by car.

Beginners should start the air-bath, like any other toughening process, only in the fine weather. May or June represents the earliest time, according to season. If necessary, one may start with only partial air-baths, gradually increasing them to full ones. One must take one's time, and this applies to the duration of the bath also. At first, as we have seen, a few minutes are enough. The reader is expressly warned against going ahead too quickly, or beginning in the bad weather season.

The feel for the right length of time only comes gradually. One's lost instinct for healthy moderation comes into play again of its own accord, imperceptibly. Only when this instinct has again become firmly established and reliable can one confidently heed one's intuition.

This reconquest of healthy instinct is itself both the task and the aim of a natural mode of living. Once air-bathing has begun, one must carry on, even if bad weather should temporarily set in; even if caught in the open in a rain-storm. In the latter case, one should dry oneself well, and put on warm clothing again. If this be impossible on the spot, one should walk briskly home, and do the drying and warming there, if necessary changing one's clothes. Never forget that one must get warm and stay warm!

Air-bathing helps to accustom one to fresh, open air. We must learn once again to tolerate hot, warm, or cold

air, just as we must tolerate still air and stormy air, dry air and moist air. We must learn to accept the cold East wind as readily as the enervating thaw-wind from the South. It is astounding how quickly the body adapts itself, how it manages, within a few months, not only to tolerate all changes of atmosphere, but even derives a feeling of pleasure and well-being out of it all. Of course, the co-operation of the mind is essential. One must be fired by the firm determination, calmly, unswervingly, and under all circumstances, to attain the goal one knows to be right. While avoiding all extremism, we must *will* back out of the air that which is vital for our life and our health. We must learn once again how to face the wind and the storm. A daily walk of at least one hour, in all weathers, will also strengthen the organism. This walk must not be a slovenly slouch, nor yet the nervous, hurried tread of the city—it must be such that one feels all one's muscles working, and keeps warm and comfortable. Here, too, one must not forget the value of deep breathing.

One should continue in this way through the fine weather season on into late autumn. Then, when November and December storms begin to rage, one should not give up, but simply continue the air-bath in the bedroom, on through the winter. Meanwhile, the body has learnt to adapt itself, has grown tougher and stronger.

Case History No. 1. A 40-year-old accountant suffers from colds at all seasons, year after year. The slightest draught is sufficient to provoke catarrh, which often lasts as long as two months. His worst periods are the changes of season in spring and autumn. Warm clothing—excessively warm—affords him no protection, and, in his view, medicines are no longer any use. His catarrh is often accompanied by high temperature. He once contracted a severe bout of influenza followed by complications which kept him from work for half a year. In addition, he complains of daily headaches, and insomnia.—*Findings* : Small, slender man of delicate

constitution. Heart and vascular system nervous. Otherwise nothing of importance.—*Treatment* : Since the patient has an insuperable aversion both to hot baths and to cold water, and prefers tepid or warm baths, no water treatment is prescribed at first, but warm baths are forbidden. Instead, he is instructed to give the entire body a dry brush twice a week, using a hard brush, until the skin grows red, and he warm. He is further advised to take a daily air-bath in his room, baring at first only the upper part of the body, but later quite naked ; also deep breathing and light exercises. He begins this in June. He has no further catarrh until the autumn, and this passes off with less trouble than usual. In spite of this, the air-baths are continued. He feels well on the whole, continues the air-bath throughout the winter, develops only one other bout of catarrh in the early spring, and is generally pleased with his state of health, his headaches having disappeared and sleep having considerably improved. It should further be mentioned that, from July onwards, he also took an air-bath in the evening before going to sleep. Vegetarian diet ; eggs and white flour forbidden.

In delicate cases, the air-bath affords, in my experience, the most suitable means of bringing the patient back into contact with Nature. Once a start is made, all the rest proceeds of its own accord, a point to which I shall return later. In cases of nervous disorders, the air-bath is a particularly suitable hardening agent. It is effective in cases of insomnia, nervous headaches and circulatory disorders. It invigorates the heart, the circulation and metabolism. We must never forget that the skin is the great organ of breathing and metabolic exchanges. The membranes of the actual respiratory organs also react excellently to the air-bath. It is known that breathing in cold, fresh air becomes deeper and more abundant, and produces subjectively a very pleasant sensation. A case of catarrh of the air passages, including the nasal sinuses (frontal, maxillary, etc.) should therefore be exposed to

fresh air as soon as possible, day and night. It is not sufficient to open wide the bedroom windows: if at all possible, the patient should remain in the fresh air day and night, the best method being in a covered verandah open on all sides. I have known outstanding successes wrought by this fresh-air treatment in cases of inflammation of the lungs and distension of the lung cells (pulmonary emphysema). Winter is just as suitable for treatment as summer; indeed, it seems that the best results are obtained in the low temperatures of winter. Dr. August Heisler, in his book "Landarzt und Naturheilkunde" ("A Country Doctor and Nature Cure"), relates the following instructive case history:

"It was also mere chance which introduced me to the quite exceptional healing quantities of sleeping in the open. . . True, I had myself, during my student days, over thirty years previously, slept for weeks on end in the glorious garden of the 'Diakonissenhaus'* in Freiburg, on a *chaise-longue* turned into a bed. . . . But in the case of patients, I was first introduced to it when a lady from Constance was brought to me by car one day, seriously ill with fibrinous bronchitis—a case of eosinophile catarrh.

"On account of the Lake Constance mist, she had not seen an open window for months on end, a fact which had done her health no good whatever. It at once became clear to me that I must try something completely different, inasmuch as the exclusion of air, and the supposed protection of the respiratory passages afforded thereby, had failed. I took the lady straight from the car and wrapped her up in a *chaise-longue* placed on a wide open verandah—all this in the middle of winter. In the evening, I had her bed (in the bedroom) warmed with hot-water bottles, and told the patient to remain as long as possible in the fresh air, explaining to her that she could get into her warm bed whenever she chose. The selfsame night, a heavyish

* The "Diakonissen" are members of a Protestant Society in Germany which trains sisters for nursing and runs its own hospitals.—R. K.

snowstorm set in. In the middle of the night, I asked myself with horror what were likely to be the effects on my patient of the change of altitude followed by this turn in the weather. Sharp at seven o'clock, I went over to her. I found the bed empty, the patient still lying outside, the foot end of her couch covered with snow. And this had been the best night's sleep she had known for many months! In a short space of time, the patient—who henceforth slept outside each night in a proper bed—was well again. In the light of this success, and after I had myself slept out in the open in the cold winter of 1828-9 in a temperature of -31° F., it is easy to understand why I even had patients running a high temperature sleep out of doors wherever possible."

Naturally, in making use of this fresh-air treatment, one must pack the patient as warmly as possible into his bed. He must not feel one second's cold, but must always have a feeling of comfortable bodily warmth. He will be healed, purely and simply by virtue of the respiratory passages being continually washed with pure, fresh air. It seems necessary to add that there are persons who cannot tolerate this form of treatment. But for them other possibilities are at hand—Nature's store of healing agents is almost inexhaustible.

3. *Sun-baths*

The sun-bath has an exceptional strengthening effect; it assists and enormously increases the mild stimulus of the air-bath. True, we have as yet no exact and detailed knowledge of what takes place within the body when exposed to the direct rays of the sun, but we do know for certain that the glaring sun produces a veritable revolution within the tissues. It sets dormant forces in motion, provokes defensive and protective measures within the organism, strengthens the power of resistance of the skin, helps it to breathe and to carry out its metabolic exchanges, and thus directly awakes new forces within us. The sun is in every way a healing factor, but a dangerous one for all

that. A sun cure therefore demands the greatest circumspection. Quite apart from direct injury through sunburn—which I have seen again and again in the first and second degree amongst over-rash enthusiasts—many other unpleasant disorders may be provoked by imprudent action. Nausea, heart palpitations, shivering, fever, and headaches—all these may set in and cause the patient anxiety. The head and the nape of the neck must at all costs be well protected when sun-bathing.

Sun treatment, like natural healing as a whole, is as old as humanity itself, but fell into oblivion during the Middle Ages. The real creator of modern sun treatment (heliotherapy) was the Swiss *Rikli*, whom I have already mentioned. His point of view was: "Water may well do it, but air is better, and light best of all." It was thanks to him that air- and sun-bathing establishments were later universally established. Rikli relates that, while still a boy, he came upon the idea that sun-baths must have a revitalising and strengthening effect. "On fine March days, I would often go up on to the southern hill-slopes, preferably to the border of a wood, and would lay me there naked upon my clothes." In his sanatorium in Veldes, Rikli, after many experiments, came to the conclusion that air and sun treatment were superior to all other forms. His patients lived day and night in special "air-huts." Bare feet were compulsory. Rikli set high value on the healing power of warmth, and was acquainted with the method of producing fever artificially by heat. He stressed the great importance of the skin, which, he said, could relieve all other organs of metabolism of a part of their work. He also emphasised the great importance of alternate hot and cold stimuli, and quoted Nature as his model for this. "Atmospheric variations are thus of profound significance for an understanding of natural law." He used the cooling air-bath alternately with the sun-bath. Every sun-bath was finished off with a wash or a half-bath from 40° to 49° F. To make a patient perspire, he used to wrap him in a blanket, and place him in the sun. The sun-bath was preceded by the

air-bath, during which warmth was generated by exercise. In the same way, after water treatment, his patients had to warm themselves again with a few exercises in the sun. Rikli's importance lies in his having rediscovered the healing power of the sun, in his introduction of alternating stimuli (air or water), and in his method of regarding disease as a whole.

Since then, sun treatment has proceeded from one triumph to another. To make clear what I mean, I have only to remind the reader of Davos and Leysin. Sun-baths have become the modern thing. Everybody tries to give his skin as dark a tan as possible, and exposes his body thoughtlessly, if possible for hours at a time, to the powerful rays of the mountain sun. The doctor must raise his voice in protest against such reckless sun-bathing. If even the simple air-bath must be begun with caution, this is doubly true of the sun-bath, which should never be undertaken without previous examination and recommendation by a doctor. The person who is not used to a life in the sun—invalids especially, but healthy persons as well—must first be hardened and prepared by air-bathing. Only after that should one begin with the actual sun cure, i.e. a bath in the sun's rays. I prescribe only partial sun-baths in the first instance, beginning with the lower extremities. The feet and lower leg, including the knee-joint, are first exposed to the sun, and care must be taken to see that they are bathed equally all over. In order to ensure this, the anterior surface is first bathed for about five minutes, then the posterior surface for the same period, i.e. the patient must turn over. After this, the right and left sides are also exposed, each for five minutes. Special attention should be paid to complete exposure of the soles of the feet to the sun. This first sun-bath thus lasts twenty minutes, which is ample. In special cases this period must be reduced, but may also be increased. The initial period of five minutes per surface should be increased by one minute each day, until ten minutes per surface, or forty minutes in all, has been reached. At this stage, the thigh, hip-joint, and abdomen are also

included. The initial period is again five minutes per surface, twenty minutes in all, increasing daily by one minute up to forty minutes in all. The lower part of the body is then rested, and the upper part exposed. With head and nape of the neck well protected, the arms and shoulder-joints are first exposed, extending after five days to the entire upper body as far down as the hips, keeping to the same time-scheme as for the legs.

In this way, the whole body is accustomed to the rays of the sun in a good three weeks. A rest period of five days should now be introduced, during which air-baths should be taken, alternating shade with sunlight. Then follows exposure of the entire body to the sun. One should begin with the back, then the abdomen, then the right side of the body and finally the left, each for five minutes, making twenty minutes in all. These times are increased by one minute daily until, after ten days, one arrives at a full sixty minutes for the entire body. Do not go beyond sixty minutes, but continue sun-baths of this length for a further ten to twenty days, then break off. I need hardly add that the system given here is one which has proved its worth generally, but which of course must be adapted to circumstances. If it seems advisable, the sun-bath may be continued for even longer, alternatively for a shorter total period, or else each individual exposure may be shortened. I can only say that the sun-bath as here described has been very successful with my patients, and variations have hardly ever been necessary.

Sun sweat-baths, as practised by Rikli, I have long since discarded: they are superfluous, fatiguing, and take up a lot of time. On the other hand, experience from time immemorial shows the high value of sweating treatment as such. One good sweat every day is a great aid to health, especially if brought about by bodily exercise; wood-chopping in the open, gardening, or work in the fields—all these are especially to be recommended. "By the sweat of thy brow shalt thou eat thy bread." With weakly or sick persons sweating must be induced by artificial means

either by means of sweat-packs in bed, or by stepped-up hot baths, of which I shall have more to say later.

Particular diseases demand particular measures. The worse the patient's state of health, the more violently must his defensive powers be brought into play. Nothing is to be hoped for in such cases from so-called "gentle" measures. Where life is directly threatened, the very strongest stimuli possible should be applied, in order to make sure of recovery. To these strong stimuli belongs sun treatment. Incidentally, the patient's constitution will always decide the tempo and the intensity of treatment. With strong patients, it is possible to proceed more quickly and more stringently than with weak, with whom one must be more cautious, more patient, and adapt the treatment carefully to the case in question. Yet one must never lose sight of one's goal. Eventually, it is nearly always possible to reach that stage at which even the weakest invalid, with sufficient patience, is able to tolerate strong treatment, his constitution having by then improved and developed new forces, having become strong where formerly it was weak.

Each time I was in Leysin, I was able to convince myself personally of the powerful effects of sun treatment. Its success has long been recognised, as also its great superiority over surgical treatment in the case of tuberculosis of the bones and joints. This being so, it is indeed a pity that sun treatment, because of its long duration—often several years—is only possible for a small proportion of patients. I was particularly amazed during my visits by the excellent general physical condition of the patients. "How is it possible," I asked Dr. Rollier, "that these patients, who have to remain lying the whole time and can only work a little, if indeed at all—how comes it that they have such powerful muscles?" Rollier's reply was: "The sun does it all—just the sun."

The astounding successes of sun treatment are of course only possible when carried out systematically under the supervision of experienced doctors. The procedure given above represents only a mean, which can generally be

undertaken by anyone without harm. In fighting dangerous diseases, such as tuberculosis, for example, stronger treatment must of course be employed. Once the body is accustomed to complete exposure to the sun, treatment is slowly increased until it reaches several hours per day. In summer, treatment at high altitudes must be shorter than in winter, when the sun's rays are less intense.

Sunlight is dissected by the prism into seven colours : red, orange, yellow, green, blue, indigo, and violet. It is now known that this colour spectrum continues at each end in the form of rays invisible to the human eye ; of these, only the ultra-violet and the infra-red interest us here, the astounding healing powers of the sun being largely contained in these rays. This fact has been made use of to create " artificial sunlight "—ultra-violet " sunlight " lamps, and infra-red lamps, largely used for producing heat-rays. No artificial lamp, however, can ever replace the natural rays of the sun. The famous Danish doctor and Nobel prize-winner, *N. R. Finsen* (1860-1904), who was the first to make use of artificial light in the treatment of skin tuberculosis and other skin diseases (Finsen Light Treatment) himself admitted that nothing could replace natural sunlight. Nothing artificial can possibly attain to the healing powers of Nature. If, therefore, we have to do without sunshine in winter, we still have no need to resort to artificial sunlight. In such cases, we simply make do with the air-bath already mentioned. The sun-bath, of course, is more powerful than the air-bath ; on the other hand, we are able to make use of the air-bath as often and as long as we choose. The reader must be warned against sun-bathing in a closed room, in which the light passes through the windows, since the latter absorb the vast majority of the effective rays. The sun-bath should only be taken in the fresh air ; in other words, air-bath and sun-bath go hand in hand.

Sunlight, like fresh air, is of tremendous help both to the healthy and the sick, the former growing stronger and less susceptible to disease (i.e. preventive therapy), the latter

being cured by its healing rays. To the question : " Which diseases can be healed by it ? " the answer is : " All."

One must always remember that specific diseases demanding specific treatment do not really exist. All true healing agents have as their aim the influencing of the entire body and the strengthening of its defensive capacity, in such a way as to overcome what we call disease. This is equally true of sunlight treatment, whose field of operation is the human skin. We know that the skin is not only a protective organ, but also represents the greatest respiratory and metabolic organ we have. It is supplied with most of those small and minute blood-vessels which we know as capillaries, as well as innumerable nerve endings, all of which play a large part in cure. The stimuli provoked by sunlight are carried to the central nervous system and thence radiated to every organ of the body. This means in practice that every organ enjoys better blood circulation, and its metabolic exchanges are thus increased. The entire being becomes revitalised, the blood is purified, and the defensive powers enormously increased. It is wrong to imagine that the rays of the sun penetrate deep into the body or the skin, establish themselves there, and thus directly fill the organism with their energy and warmth. They are in reality merely the vitalising stimulus which removes unnatural impediments and thus releases the self-healing forces of the patient.

If it be true that there are certain diseases for which sun treatment has proved itself especially effective, this is probably due to the fact that, in the first instance, it was purely by chance that the particular effectiveness of heliotherapy was discovered at all. This by no means excludes the possibility that other equally powerful natural healing agents may exist, but simply that they have not yet been discovered, or their importance not sufficiently recognised, or yet again have subsequently been forgotten.

Heliotherapy is thus treatment of the entire organism. If the diseased organs are exposed to the sun, it is because they are also parts of the whole and as such must not be

omitted. Yet it is always treatment of the whole that is decisive. There are, admittedly, cases in which it is sufficient to sun-bathe only the diseased organs, but these are at most cases in which no question of life and death is involved, and where the local stimulus alone is sufficient to mobilise the organism so that its self-healing powers are adequate for the particular case. Nevertheless, treatment of the entire body always remains the ideal.

The experience of the last hundred years shows that sun treatment is particularly suitable for the following diseases : all skin diseases, such as eczema of all types, psoriasis, furunculosis, etc. For these, sun-ray treatment is incomparably better than smearing with useless ointments. Especially also for all kinds of wounds which refuse to heal, such as varicose ulcers, infectious suppuration (pus) arising from injuries, burns, tissue inflammation, and especially skin tuberculosis (Lupus). *Finsen* was the first to treat tuberculosis of the skin by means of sunlight concentrated through quartz lenses. Sun treatment of tuberculosis has become famous—I have only to mention the successes achieved in Davos (pulmonary tuberculosis) and Leysin (tuberculosis of the bones and joints). I can recommend the book of Prof. Dr. *Rollier* : “*Gesünder durch Sonne*” (“*More Healthy through Sunshine*”).* Weakened bones (rickets, curvature of the spine, etc.) can be strengthened and even cured by the rays of the sun, and the same is true of fractures, both simple and compound.

Case History No. 2. A 50-year-old woman suffering from an extensive varicose ulcer on the left lower leg. Treatment with ointments unsuccessful.—*Findings* : Small, frail woman with nervous heart and circulatory disorders. Both legs reveal varicose veins extending as far as the abdomen, the worst ones on the left leg. The ulcer is fully as big as two hands, gangrenous in character, and gives off an evil-smelling fluid and pus. Patient suffers from cold toes. Danger of gangrene is present.—*Treatment* : In

* For English works by Dr. Rollier, cf. *Bibliography*, Part II. R.K.

addition to alternate hot and cold foot-baths extending to the ankle-joints, sun-baths are prescribed, gradually increasing each day, leading to exposure of the whole body. The ulcer only heals up completely after about three months, the varicose veins receding at the same time. Increase in weight, general condition much improved.

Case History No. 3. A 20-year-old soldier, suffering from a terrible shell-splinter wound in the right buttock and thigh. Cellular tissue of the under (true) skin and parts of the musculature also destroyed. Although no bones are broken, the patient is in considerable danger, owing to the extent of the wounds. Strong suppuration, partial sanies; vicinity of the wound inflamed with erysipelas ("St. Anthony's fire").—*Treatment*: Previous treatment with bandages and ointments so far without success. Every bandage now removed, except for one at night to protect the bed-linen. During the day, the wound is left open and exposed to sun and air. A vessel is placed under the patient to receive the exuding pus. The success is amazing. In a few weeks the extensive wounds close up, leaving behind a moderate-sized, comparatively elastic, scar.

I cannot understand why treatment with bandages is still continued, in spite of long-standing experience to the contrary. All bandages, including plaster casts, can be and must be at best emergency aids. Ordinary bandages are also described as protective bandages, yet this gives a totally confusing picture of their significance. In one case they are used to protect against infection, in another they are smeared with ointment in order to assist the healing process. Do people still not realise that ointments can never really heal? Do they also not know that the exclusion of air and light creates an ideal breeding-ground for bacteria of all kinds? All bandages work against Nature. They often render healing quite impossible, and at best they postpone it quite unnecessarily. They may even provoke dire consequences and, in exceptionally

unfavourable circumstances, hasten on death. Plaster bandages are also a great evil, and equally superfluous. People claim that they are necessary to rest bones and joints. Is there no other means of resting them, such, for example, as simple supporting bandages for bone fractures and diseased joints? I have noticed time and again how the diseased body looks after this resting process of its own accord, by instinctively avoiding any movement likely to cause pain or even mere discomfort. We may safely call the plaster cast, like any other bandage, a mere emergency aid for external purposes. Such measures have nothing whatever to do with healing. In the case of tuberculosis of the joints, plaster casts are very dangerous for the patient. The muscles waste (atrophy), and the joint becomes stiff. It is cold comfort for the patient when he learns that his tuberculosis has been healed, but that his leg will forever remain stiff: this is not exactly what he understood by healing, and he is perfectly right. Healing still means "*restitutio ad integrum*"—the unconditional re-establishment of the original state of health.

Air and light are the two elements in which we live, and without which we cannot exist. Just as plants turn their leaves towards the sun, so should we humans live in contact with its vitalising rays. We must never prevent air and light from coming into direct contact with us, and, wherever a perverse super-civilisation forces us to, we must and are duty-bound to break through its trammels wherever possible. This is possible in most cases without offending against decorum. Let us not wait until fell diseases force us to it, but let us rather prevent disease by living as healthy individuals, inasmuch as prevention is better than cure. Light and sunshine assist the growth of bones and muscles: they see to it that we receive the necessary calcium and vital albumen. They strengthen all the tissues, and exercise a favourable influence on heart, circulation and metabolism. Parents must not forget to get their children used to air, light, and sunshine from their earliest days; indeed, the expectant mother should begin with her

own self, and she will enjoy a smooth pregnancy, easy parturition, and bear a healthy child.

Nervous patients are the only ones who must be extremely careful about sun-ray treatment. They should content themselves initially with air-baths, and should only be exposed to direct sun-ray treatment when their nervous disorder is already largely overcome. Even then they should be very cautious in the early stages, increasing only very gradually to normal, average exposure.

The preconceived notion has grown up that a strongly sunburnt skin (pigmentation) is a sign of health and toughness and that the deeper and stronger the pigmentation the better the health. My thirty years' experience as a doctor does not confirm this. If it were true, the darkest-skinned races ought to be the healthiest. Now, white doctors and other researchers are able to give us indication enough regarding the African negroes in this connection—for example, the writings of Dr. Albert Schweitzer. Since blond, blue-eyed persons brown the least, they ought, logically speaking, to be weak and diseased. History shows that this is not the case. The degeneration of the fair-skinned, white races has arisen, not from any deficiency in pigmentation, but from their general rejection of a natural mode of living.

One should not be content to expose merely one's own person to air and sunshine at every available opportunity. This must also be done with one's home and household furniture. "Where air and sunlight enter, the doctor has no place." Houses where little or no sun can enter are unhealthy, and the same is true of any place of work. Bright, airy, sunny rooms everywhere constitute an absolute essential in the realm of social health. Carpets, clothes, and linen should all be aired and sunned from time to time, and will, if this is carried out thoroughly, retain the "fragrance" of exposure for a long time afterwards. The same is true of furniture. If the sun does not reach it sufficiently in its normal position, it should be brought to

the daylight from time to time, and doors or drawers of cupboards, etc., left open.

Air and sun treatment today form an indispensable part of natural healing. It would, however, be a mistaken and one-sided view to consider them as universal healing agents which can cure all diseases without further ado. Since all men are different, it will always be necessary to decide from one case to another which healing agent, out of Nature's rich fund, will be the most effective in any particular instance. Individual treatment demands the choice of whatever therapy be in conformity with the patient's constitution and his state of health at the time. One must also beware of applying experiences made with healthy persons to those that are sick, and vice versa. Above all, one must be careful not to turn successful experiences of air and sun treatment into general truths to be preached fanatically as a sort of philosophy of life. One should rather be ready at all times to leave it to the superior art of the skilful doctor to decide which particular natural healing factors give promise of success in each individual case.

CHAPTER II

MOVEMENT AND REPOSE

"The body to stir doth blessings confer" (German proverb).

1. *Necessity of bodily exercise*

When taking an ordinary walk, we notice how much freer and lighter the body feels, what a pleasant feeling of warmth runs through it, and how our breathing becomes deeper and more rapid. The colder the surrounding air, the greater the feeling of well-being. How is this explained? As human beings, we belong to the species known as warm-blooded mammals. We cannot live without a certain degree of permanent warmth inside us. This warmth varies during the twenty-four hours between 97.9° and 99.5° F., according to the time of day and the type of activity being performed. Normal temperature, then, lies between 97.9° and 99.5° . This temperature is necessary for the maintenance of life, and is therefore kept constant by the body, irrespective of whether the temperature of the air be above or below freezing-point. Even in extremes of heat and cold, our body temperature remains unaltered.

In order to maintain this body temperature, this heat-
ence, *the body must continually generate the necessary*

h. This is achieved by the combustion of food, and
eat supply" from outside. The idea of "heat
however, must not be taken too literally; we
instance, conduct external heat into every
y, in the way that we heat a room. "Heat
be assured indirectly, by helping the body
hen the outside temperature is cold (by
hing, heating of living rooms, etc.).

This is because the greater part of the warmth produced by the body is given off externally via the skin ; we radiate warmth constantly. The colder our surroundings, the stronger this radiation, and vice versa. If, for example, the surrounding temperature be higher than our own (e.g. after intensive sun-bathing, or after a hot bath or steam-bath), no radiation can take place. In this case the warmth is retained within the body, and we sweat. The excess warmth stored in the body is used up in the evaporation of sweat, and the body thus finds its normal heat balance once again.

In reality, then, the body has to generate its own warmth, and this is achieved by the combustion of foods taken into it. This combustion is brought about by chemical combination with the oxygen inhaled in the air. It is vital that this combustion be kept in perpetual motion, in order to ensure sufficient body warmth at all times. A useful means to this end is physical exercise, which brings the muscles into play. *In other words, muscular activity generates heat*, and it is for this reason that a simple walk is also the simple means of generating heat. Heat regulation takes place through the skin. The hotter the air around us, the stronger the circulation in the skin ; the stronger this circulation, the more warmth is conducted from the inside of the body to the skin, and thence given off externally. The colder it is, the more the blood-vessels in the skin contract, the less the amount of blood reaching the skin, and the less the heat given off. In the former instance, the skin feels warm or even hot, in the latter, cool or cold. This balancing process, of course, only works in ideal form in the case of the naked¹ being living under completely natural conditions. In the case of those living amongst a refined civilisation², it is largely modified by clothing and housing. In warm³ weather we dress more lightly and thus assist heat radiation⁴, which in winter we impede by means of thicker clothing⁵. Similarly, we warm the house in winter and keep it as⁶ cool as possible in summer.

Quite apart from the question of heat⁷ generation, exercise

represents an important stimulus for the entire circulation, and the metabolic exchanges which depend upon it. The "suction-pump" afforded by the heart is not strong enough to bring back used blood to it; by far the greater part of this vital work is carried out by the musculature, in particular the muscles of the remote-lying extremities. Whenever a muscle contracts, it exerts pressure on the blood vessels (veins) in its immediate vicinity, and thus forces the blood back to the heart. To prevent the blood flowing back again when the muscle relaxes, the veins are supplied with valves at frequent intervals. Exercise thus ensures good circulation throughout the body and its various organs. Good circulation automatically means good metabolism, since good metabolism means nothing else than good combustion of food and removal of toxic wastes through the blood. Combustion creates the necessary body warmth, and also energy for work, which is itself movement, exercise. This is the Circle of Life.

There is no doubt that many diseases are due to lack of exercise. A powerful, healthy muscle which is artificially rested, e.g. by means of a plaster cast, will wither in the course of a few weeks to half its original size, its efficiency being thereby reduced by at least as much. Let us imagine a man forced to remain lying motionless for several months—he would inevitably go to ruin. True, such cases are extremely rare, since it is possible, even in cases of severe disease or weakness, to arrange artificial exercise, at least sufficient to prevent the worst. Yet this does not alter the fact that modern man, with his largely sedentary mode of life, takes far too little exercise. The deduction is clear for all to see: modern man is bound to become ill sooner or later, for lack of exercise alone, not to speak of the numerous other harmful influences to which he is exposed or, as the case may be, exposes himself. It is thus not to be wondered at if experienced doctors take the view that amongst civilised humanity the really completely healthy man no longer exists.

A daily walk of one to two hours is indispensable for our

health, if we have no other opportunity for exercise. This walk should be taken in all weathers ; in rain or sunshine, in wind or calm, in ice or snow, nothing should keep us from exercise in the fresh air, by means of which we take an air-bath for skin and lungs at the same time. Similarly we make use of the rays of the sun, taking care only to protect the head and the nape of the neck. If we get caught in a downpour, or have to contend with icy cold, this all represents some addition to our natural powers of resistance. In such cases, however, we must be careful to see that we get warm again immediately afterwards. While still outside, this is best achieved by walking at double speed, and then, once home, by changing our clothes, if necessary, and rubbing the body dry and warm.

2. *Exercise through work*

Beneficial though the daily walk may be, the best exercise to take is in the form of useful physical work. Few realise, for example, how readily simple wood-chopping promotes bodily warmth and, in addition, exercises a calming effect upon the whole system. The same is true of work in field or garden. Anybody who is able should do two hours' gardening every day, combining air- and sun-bathing with it. If one is already sufficiently accustomed to these two healing agents (cf. Chapter I), it is best to work naked, with only a pair of shorts to protect the loins and a wide-brimmed hat to protect head and neck from the sun. After a very short time comes an exceptional feeling of well-being. This feeling is always a sign of good circulation, a sign that the body is working sufficiently. If, in fine weather, such work, combining as it does exercise and exposure to the sun's rays, makes one really hot and leads to perspiration, this can only do good. On finishing one's work, one should wash oneself quickly in cold water, or else step slowly into a half-bath* (water temperature from 43° to 50° F.), remaining exactly ten seconds—no more and no less—meanwhile washing the chest and the back with cold water.

* Cf. Chap. III, 5 (d), page 91.

To do the thing really properly, one should start counting slowly as one steps in: "Twenty-one, twenty-two," etc. On reaching thirty, one should get out, dry only the hair-covered parts of the body but not the rest, and slip on one's indoor clothes, which should previously have been hung out in the air and sun. It is then that one learns with amazement what it means to be pleasantly warm—even on the hottest of days—and how childishly easy it then becomes to concentrate on mental work for hours afterwards. This question is treated in more detail in Chapter III.

3. *Gymnastics and massage*

It is regrettable that so many persons nowadays, for lack of productive physical work to do, are forced to take their exercise in other ways, such as gymnastics, games, and sport. I fully realise that it cannot be otherwise, and consequently approve everything that falls within this category. Indeed, it would be a good thing if even those persons performing one-sided physical work (farmers, artisans, craftsmen, etc.) also did a few hours' gymnastics or sport each week, in order to give systematic and harmonious exercise to the *whole* of the body.

Except for special (orthopædic) cases, there is normally no need for gymnastic equipment: "free" exercises are sufficient. These, however, must not be performed in a closed room, but before an open window or in the open air. Exercises indoors are to be preferred in as far as they save time. They should be simple, gentle, spontaneous, and should aim at gradually exercising *all* the muscles of the body, over a period of weeks or months. Rome was not built in a day; one should take one's time here also, but—once having begun—continue without fail. I need hardly add that these exercises should be performed naked or in a bathing costume. In regard to one's daily timetable, exercises are best performed in the morning. The beginner should of course make a start in the fine weather (May or June) and continue the exercises throughout the winter.

The exercises should take at least five minutes, but should not exceed fifteen minutes ; it is not a question of trying to become an athlete. Nor should one let any rhythm be imposed upon one : we each have our own, individual, rhythm. True, there does exist a mass-rhythm, but we have not yet reached that stage. It may be quite pleasant to have musical accompaniment ; nevertheless, we shall do better not to participate in the usual gymnastics by radio ; beginners are in no way equal to the powerful, energetic rhythm of the instructor, who is used to sport and in full training. So do your exercises in your own way, and do not forget that breathing exercises play a central part in them all. Breathe in deeply—and out, even more deeply. Inhalation comes of its own accord, but in exhaling we must consciously assist our somewhat indolent nature to expel the carbonic acid from the body, and supply it in exchange with as much oxygen as possible. Breathe in *and* out through the nose only, the mouth remaining closed. Breathing must be adapted to the movements of the body. Incidentally, this training in correct breathing can also be carried out during the daily walk, by accustoming oneself each day, quite imperceptibly, to exhale longer than one inhales : one's steps serve very well as a " clock " ; whether they be fast or slow, does not matter—for example, one may inhale consciously for three paces, and exhale for four. One should practise this until it becomes automatic. Then inhale for three, exhale for five ; later, exhale for six. One may stop there, or else continue until, say, one can, without difficulty, inhale for six paces and exhale for twelve ; one may even go beyond this—the main point is to exhale for twice as long as one inhales. This practice must become so ingrained in one's flesh and blood that one finally breathes in this rhythm quite unconsciously. I would also advise anyone who has a good voice, if he can afford it, to have it trained—singing is not only a glorious art in itself, but is also wonderful exercise for the respiratory organs, especially the lungs, as well as constituting the best protection against diseases in this region, such as catarrh and tuberculosis.

Breathing, then, should be adapted to the various movements of the body. Here are a few examples :—

1. Raise both arms to the vertical, stretch yourself fully from toes to finger-tips, and inhale. Then lower the arms slowly and exhale slowly and completely, relaxing the body completely, letting it go utterly limp. Repeat ten to twenty times.

2. Raise the right leg, extend it forwards (knee straight) as far as possible, inhale ; then lower slowly, exhaling at the same time. Repeat with the left leg. Tension and inhalation on raising ; relaxation (going limp) and exhalation on lowering. This should now become automatic. Repeat the same exercise to the side and to the back, still adhering to the general rule—inhale on raising the limbs, exhale on lowering. Repeat ten to twenty times.

3. The same exercise with the arms ; again ten to twenty times with each arm, forward, side, and back.

4. Now raise both arms to the vertical (inhale) and bend forward and down as far as possible (exhale), keeping knees straight, and keeping arms, head, and upper trunk in the same relative position, the arms exactly parallel with the sides of the head. The goal should be the toes, which must remain firmly planted on the ground. It will not be possible to reach them first time, but success will come in the end. Repeat this also ten to twenty times.

5. Now lie down flat on the back, the arms outstretched parallel with the sides of the head, and repeat the same exercise in a lying position. If, on exhaling, breathing comes in strong, jerky gasps, no harm is being done.

6. Now stand up, relax a little, and walk about the room, rubbing and massaging trunk and limbs. Never forget the importance of keeping warm all the time. Good inhalation and even better exhalation should by now have become second nature. (These rest pauses can also be taken after each individual exercise.)

These few examples are only intended to show how easy it is to perform such exercises oneself : they can, of course, be modified and increased in a hundred different ways. If

needed, suggestions can be found in numbers of books on the subject, but readers can think out others just as well for themselves. What matters is that, in the space of a few months, *all* muscles be exercised: once this is done, one can begin the round again.

After morning exercises, one may either rest a while longer in bed, in the warm, or else dress and begin the day's work.

Where diseases require treatment in the form of exercises (medical gymnastics), these must be prescribed by an expert. The importance of gymnastic therapy in correcting bone and muscle injuries becomes obvious, and it has, indeed, become an important part of orthopædic treatment. Curvature of the spine, for example, is an ideal case for gymnastic treatment—I remember the crawling exercises of the children who were treated forty years ago in Prof. *Bier's* surgical clinic in Berlin by Professor *Klapp*. In addition to weak and diseased bones, stiff or otherwise faulty joints can also be successfully treated by exercises. The first real orthopædic specialist was Dr. *Schreber* (of "Schrebergärten" fame) who adopted corrective exercises for children and adults as far back as the middle of last century. His idea was "to develop and acquire health as far as possible by means of self-activity." In Sweden, the poet Per Henrik *Ling* (1776-1839) became the father of Swedish gymnastics and massage. The Germans *Gutsmuths*, *Vieth* and "Father" *Jahn* were the founders of "Turnen."* Major *Neumann-Neurode* also won lasting fame with his exercises for infants; his system bears great similarity to *Ling's*.

Removal of constitutional weaknesses or digestive disorders, strengthening of the muscles and the thoracic and abdominal organs—all these can be accomplished by exercises. The doctor must of course decide in individual cases whether exercises or perhaps some other natural

* "Turnen"—the name given to a system of gymnastics well known throughout Germanic Europe—something akin to what we understand in England by P.T. (physical training).—R. K.

means of healing is the more suitable. Nevertheless, one may say without any exaggeration that correctly performed exercises are of great importance for healthy and sick alike, and form an indispensable part of modern healing. As everywhere, harmful excesses must be avoided. It is quite wrong, for instance, for the nerve-ridden and exhausted man of today to devote his only free day, Sunday, to a difficult ski-ing or climbing tour in the mountains, or some other tiring sport—no matter what kind—only to return home late at night, tired and worn out. He would do better to rest most of the day in bed, and take only an hour or two's gentle walk. All those to whom I have given this advice in the course of the last few decades felt very well as a result, and improved their health immensely.

Closely connected with physical exercise, and yet something apart from it, is massage, or kneading of the body ; though it should be made clear from the start that all those in a position to co-operate actively in regaining or maintaining their health can very well dispense with it. Massage is primarily designed for weak and seriously ill persons, and for those suffering from nervous disorders and cramp, to all of whom it may be of great use. Our present-day remedial massage was founded by the Swede *Ling* mentioned above. On his initiative, a Central Institute of Gymnastics was opened in Stockholm in 1813, and in 1827 the Institute of Gymnastics and Orthopædics : *Ling* remained head of them both until his death. His son, *Hjalmar Ling* (1820-1886), was an instructor at the first-named Institute, and continued in the spirit of his father's work. Originating in Sweden, these forms of remedial gymnastics and remedial massage acquired a world importance which they still enjoy today.

Massage, it is true, appears to influence the musculature only ; if properly executed, however, it is of profound importance for the skeletal system, the joints and all internal organs also. Most people, perhaps even all, have a tendency to cramp their muscles even when resting.

Dr. A. Müller (*Sanitätsrat* in München-Gladbach, Westphalia) in his large, two-volume "*Lehrbuch der Massage*" ("Massage Instruction"), calls this cramped state "*Hartspann*" (lit.: "hard tension"). It is this tension that has to be removed. The method of removal cannot be explained here, but the reader who wishes to study the subject is recommended to read the "*Lehrbuch der Massage*" by Dr. Wilhelm *Rohrbach*, who has been conducting theoretical and practical courses of training for masseurs in Kassel-Wilhelmshöhe for many years now.

A special type of massage is the Thure-Brandt treatment for the internal pelvic organs, especially of women: it is so named after its Swedish inventor, Major *Thure Brandt* (1819-1894). His son, Dr. *Aime Thure Brandt*, continued his father's work, and in 1894 published a book "*Thure Brandt Massage for Women's Ailments*" from which it is clear that the system, a combination of exercises and massage, is outstandingly successful in cases of prolapse of the uterus, uterine displacement, and chronic inflammation of the reproductive organs. This conservative method is, however, unfortunately unknown to most doctors and laymen.

The Roeder method also deserves mention in this connection. Dr. *Roeder* introduced a system of combined suction and massage for the (palatine) tonsils, and short massage of the adenoids (pharyngeal tonsils) and nasal membranes, methods which, in my opinion, can often make surgical operations unnecessary.

Case History No. 4. A 55-year-old woman suffering for a year from a completely stiff right shoulder-joint, cause of which is said to be inflammation of a nerve of the right plexus. This painful plexus neuritis has lasted so long as to make it necessary to rest the entire arm completely for a long period.—*Treatment* consisted of general hydrotherapeutic applications of a strengthening nature, together with sun-baths; in addition, daily massage and exercises were prescribed. The whole cure lasted four weeks, and

produced notable improvement in the condition. The patient was given the necessary instruction in self-performed exercises, and discharged. When she returned a year later, she had made further progress. Treatment was continued thoroughly for another four weeks, after which the patient was able to return home completely cured.

Massage as a form of passive exercise holds a place of outstanding importance in natural healing. Like all other natural healing agents, it greatly stimulates the circulation, not only by revivifying the skin and the cell tissues of the under (true) skin, but because it reaches deep down to the all-important muscles, and causes these to promote a stronger pumping effect upon the blood-vessels. Good circulation, i.e. the feeding of every organ with a good supply of blood, is the indispensable pre-condition of any cure. Despite its outstanding effectiveness, however, one should not rely on massage alone. By combining it where possible with other natural healing methods, one saves time and money. As a form of passive exercise, it has the disadvantage; if used one-sidedly, of pampering the invalid and holding him back from using his own forces in order to maintain or recapture his health. The same, incidentally, is true of all purely passive methods of healing.

4. *Mind, soul, and movement*

The unruffled calm of the soul is rated high by poets and philosophers, whose watchword it is that one should never allow oneself to be shaken out of one's composure. In classical antiquity, there existed a school of philosophers who made this principle the basis of their entire teaching—this was the school of Stoical philosophy, whose followers were called the Stoics. The expression "stoical calm" is still current even today. Is this teaching a just one, and does it correspond to the demands of a healthful life? If we examine human nature clearly and objectively, our answer must be "No." Stoical calm was the ideal of men already tired of life, and who unconsciously longed to escape from

what was even then an effete civilisation, with its restlessness, its perpetual busy-ness, its senseless excitements and sufferings. These men wanted to rise above a world of turmoil and confusion, a world of artificiality, and to find eternal peace through the power of the soul. The same is true of our own times. Yet only death can realise this ideal. As long as we live, our soul will continue in restless movement—indeed, the more pronounced this movement, the more we live. Joy and suffering, pleasure and pain, gaiety and grief follow one another, or, to put it briefly, movements of pleasure alternate with those of displeasure. Neither must gain an absolute ascendancy, but each is essential to our life. The healthier we are, the more easily are mind and soul able to overcome all negative upsets.

Health is happiness. Happiness does not lie in mere absence of suffering, but in being strong enough always to be able to triumph over suffering when it occurs. The greatest strength lies in seeing the positive within the negative, in turning displeasure into pleasure, in recognising good within evil, and in laughing one's way through hardships. Only the man in complete health can succeed in doing this. But health is no mere gift which can never be taken away from us again: on the contrary, it has to be fought for, each day anew. Physical changes take place so slowly, so imperceptibly, that they do not always reveal whether things are going well or badly for us in this struggle for health. Only from the condition of the soul are we able to recognise whether everything is in order. As long as we feel well and are calm, we are on the right road; but every sign of unrest shows that we have wandered from that road. Every feeling of displeasure, i.e. every negative reaction of the soul, is a symptom of disease, to recognise which is as important as, or even more important than, the recognition of physical symptoms. At the same time they are warnings which lead us to look back towards the right road, and to see to it that we re-establish healthy conditions within the soul. Health is no fixed, quantitative conception. It is merely an expression of the fact that

we have so far remained victorious in each individual phase of our struggle against disease-building, destructive powers. Absolute, perpetual health does not exist in this world. Let us be glad if we always manage to reach a "plus" health-balance, at least the famous 51% ; and let us strive valiantly to attain to 100%. If our health balance must waver, it must only be within this margin, which is the margin of health.

The soul must also experience movement. The soul which is no longer roused to anger in the face of meanness and injustice, which no longer loves truth and hates untruth—such a soul is blunted and diseased. So, too, the man who cannot fight passionately (but not fanatically) for all that is noble and beautiful upon Earth, is leading a restricted, listless life. He who no longer has any cares about his near relatives and his fellow creatures, who only thinks of himself and the satisfaction of his egotistical desires and vanities, is not living, in the true sense of the word, but merely vegetating. He who knows nothing of grief knows nothing of joy ; who hates not, cannot love ; who lets evil continue unopposed, cannot take up the cause of righteousness. He who is with the Devil cannot also be with God.

Everything in power and passion that burns within us must be brought to bear in the struggle against all that smacks of wrongness and disease, against every evil within and without us. This is why life demands movement of the soul, for in this way such movement becomes a weapon in the cause of health. Only—they must be genuine movements, and no cranky distortions of a false, deceitful sentimentality. True feelings, genuine e-motion of the soul, have become rare, even as rare as true, original, pulsating health. The question whether redemption be still possible depends solely upon whether we find our way back to true Nature, to the true and only God.

5. *The complement of movement—physical and spiritual repose*

All physical and spiritual movement uses up our energy,

and, to make good this loss, we need repose. Rest and relaxation must follow tension, as the night the day. Indeed, it is no mere chance that we normally take our rest at night. Even though we take a rest here and there during the day, even if we take hundreds of seconds' or minutes' rest following each individual exertion that we make—the great, decisive, resting period remains, nevertheless, our sleep at night. As a means to virile health and youthfulness, sleep is of the first importance, ranking far above nutrition in this respect. The body cells, fatigued by their daytime exertions, are able to recover, and renew their strength, while we sleep, since they need only perform "emergency-work" at this time, i.e. such work as is absolutely necessary for the maintenance of life. During this process, all harmful toxins and irritative substances that have collected are first removed. The overtaxed heart finds rest, and, in combination with the circulatory organs, re-establishes regular metabolism and water metabolism. Stomach and intestines begin to breathe again, once relieved of the strenuous task of digestion. The sense organs and the brain are removed from the many-sided impressions of the day, and are able to assimilate them in peace: often we snatch up fleeting reflexes of this "working-off" process in parts of our dreams. In reality we dream the whole night through. These dreams are also necessary, in order to liberate the oppressed soul, to resolve numerous conflicts, and to bring unfinished thoughts to maturity. All the functions of the organism take place during sleep at reduced speed, at a minimum rate, only operating as far as is necessary for the maintenance of life. Bones and muscles enjoy perhaps the biggest rest. The radiation of heat from the body, usually so strong, is extremely limited, being almost completely impeded by the bed coverings. A good bed is thus the prerequisite of good sleep. Whether a feather quilt or a woollen blanket be chosen as bed-cover is of no moment; such arguments may well be left to fanatics of the hardening school. We should be content if we have a warm, cosy nest. In order not to pamper oneself

too much, it is better to choose a comparatively hard undermattress, or even better a tightly stuffed straw one, which has the advantage both of cheapness and cleanliness, inasmuch as it can frequently be changed.

It is very dangerous to start losing sleep as a result of faulty living habits. Disturbed sleep of all kinds is one of Nature's warnings, and as such should be carefully heeded and remedied as quickly as possible. The best means of doing this is described in Chapter III of this work, as well as in my study of "Nervous Disorders and Hysteria."* It is a profound error to imagine that sleep can be enforced either by one's own will, or by means of soporifics. Insomnia is the expression of a deep-seated disturbance of the vegetative or autonomic nervous system. This system will not take orders from us, least of all after being maltreated for years on end—on the contrary, it controls us. If one can no longer sleep, one can at least rest with one's eyes closed, and give oneself over without resistance to one's nature. Under such conditions, one should rest as often as possible, even during the day, and should never ignore any feeling of tiredness. This applies also to the healthy individual. When sleep comes over us, we should give way to it. It may be very useful to rest for half an hour or an hour even during the day, say, after the midday meal. This midday nap is especially to be recommended to early risers and morning workers. One can and one should also rest at any other time of day, but for this one should, where possible, undress and get into bed, as at night. On occasions when extra hard work is demanded of one, or in cases of chronic disease, one should lie up in bed from time to time for thirty-six hours (two nights and one day). It goes without saying that no food should be taken during this time—bed is made for resting, not for eating. The evening meal should also be taken some four hours before retiring. *Rest, together*

* Dr. Bernhard Detmar, "Nervous Disorders and Hysteria—Disease or Character Defect?—Their nature, cause, symptoms, consequences, and treatment."—Translated and edited by Robin Kemball. Parallel with this edition. (Thorsons Publishers Ltd., London. 6s. net).

with abstention from food, is a marvellous method of gaining or maintaining health.

In times of decline, a terrible lot of talking is done, both public and private. On such occasions, men seem to feel the need to cloak and excuse their imperfections and wrong deeds in a mass of prattle. The sensible, healthy man, in particular the one who is struggling for new health, takes no part in such mischief. He prefers silence. Nature—our model of perfection—keeps silence also ; and, if she breaks this silence, if she speaks to us with thunder and lightning, with raging storm and flood, with crackling flames or by means of other natural phenomena, her speech is always brief and clear. Her example should be a model for us. We, too, should speak only when the struggle of life makes this necessary, and even then our language should be simple and clear. Moreover, we should keep silence and amass new strength therein. *Silence is relaxation for the mind*. In silence we find access to the innermost stirrings of our nature : in silence we grasp a fragment of eternity. In silence, our petty, calculating intellect holds its peace, and common-sense, God's gift within us, is at last able to stir. In silence, we come nearest to God ; in silence, our prayers reach Him.

If at all possible, we should, once a day, escape from the turmoil of life and practice one hour of absolute silence. This is easily possible if we cut out such unnecessary distractions as listening to the radio, reading the newspaper, and so on. The very fact of reflecting as to what is necessary and what is superfluous will make clear how much superfluous activity has hitherto robbed us of our time and our energy.

Movement and repose in sensible alternation represent health and healing factors of the highest importance. Many doctors with a rich fund of experience are of the opinion that physical exercise, as the most important part of treatment, deserves priority over all the rest. Exercise therapy has been tried with success in cases of nervous and mental disorders. Not only does it take the patient's mind

off useless brooding, but creates for him a form of health-promoting exercise and at the same time gives him the feeling of earning at least a part of his livelihood himself by useful and fruitful (productive) work. "By the sweat of thy brow shalt thou eat thy bread." This "curse" may be transformed every day into a blessing as soon as we grasp its deeper meaning. And every one of us—even the weakest and most imperfect—is in a position to find and carry out useful work of some kind, given the many-sided character of civilised life. Bitter it is indeed to have to live on alms and the kindnesses of others. Only such as are really driven to it by real illness and helplessness should avail themselves of such help. All others must be clear in their minds that work is the greatest of all benefactors. They must, however, be equally clear that the one-sided, mental work of an intellectual profession only devours their strength, whereas physical work maintains it and creates new energy. At the same time, one-sided physical work is also harmful. Just as the brain-worker can only keep healthy by interspersing his work each day with bodily exercise, so, too, must the brawn-worker take unto himself daily at least a measure of mental food to raise himself up above a purely humdrum existence, and to give him courage and confidence. Physical and mental exercise must complement one another in such a way that we attain to that complete harmony of our being that we call health.

CHAPTER III

WATER

"The best is water."—Pindar.

1. General

The use of water is as old as mankind itself ; it has been known at all times, by all peoples. *Homer* depicts the young hero stepping from his bath, filled with renewed strength and beauty. The ancient Greeks and Romans held baths in high esteem, as the remains of their enormous bathing establishments show. The Russians value mostly the steam-bath, the Japanese a hot bath of a temperature up to 122° F. Amongst many oriental peoples, bathing and washing are part of religious practice, prescribed by holy teachings handed down through the ages. The ancient Germans used to harden their bodies by means of cold baths. The bathing establishments of the Middle Ages are famous. In more recent times, more especially since the Thirty Years War, the use of baths fell more and more into disuse. Yet at no time did man lose his knowledge of the usefulness of water treatment.

2. Origin and development of water treatment

Our present-day water treatment owes its existence to two men, *Priessnitz* and *Kneipp*. Even before them, numerous doctors and laymen had recommended the use of water for the sick, amongst whom *Dr. Siegmund Hahn* and his son, *Dr. Johann Siegmund Hahn*, deserve special mention. *Siegmund Hahn* lived from 1664 until 1742 ; he was a medical practitioner, and chief physician ("Stadtphysikus") of the town of Schweidnitz, in Silesia. His

main activity thus falls in the first half of the 18th century. Siegmund *Hahn* may be regarded as the founder of scientific and practical hydrotherapy in Germany. His interest in it had first been aroused by Dr. *Schwerdtner*, a medical practitioner in Jauer, in Silesia, and by the Professor for internal medicine at the University of Halle/Saale, Dr. Friedrich *Hoffmann*. Dr. *Siegmund Hahn* had the courage to introduce water treatment—external and internal—into general practice, after having tried it out on himself, for those days a great feat indeed. The goal he aimed at is explained in his book "*Psychrolusia vetus renovata, jam recocta*" which he himself Germanified into "*Wieder aufgewärmt Alt—kalt Bad und trinken*"; the sense being "the cold-water cure known of old is here reproduced in new form."

His son, Dr. *Johann Siegmund Hahn* (1696-1773), also medical practitioner and chief physician in Schweidnitz, continued his father's work in practice, and also wrote a book entitled "*Unterricht von Krafft und Würckung des frischen Wassers in die Leiber der Menschen*" ("Of the Power and Effect of Fresh Water upon the Human Body"). Both books of the "*Water Hahns*"* contain instructions for specific diseases which comprise, basically speaking, all methods of water treatment subsequently developed.

Kneipp and *Priessnitz* also probably first had their attention called to the healing power of water by the writings of the "*Water Hahns*." In the case of *Kneipp*, we know this definitely, inasmuch as he records that he owes his own life to Dr. *Hahn's* little book. *Kneipp* did not specify which of the two books it was, but we may assume that he meant that of *Johann Siegmund*. In the case of *Priessnitz*, the similarity of his methods suggests that the "*Water Hahns*" also exercised some influence upon him.

3. *Priessnitz' methods*

Vincent *Priessnitz* lived from 1799 to 1851 on the

* The German word "*Hahn*" means a tap. The two doctors in question are known in Germany as the "*Wasserhähne*," a play on words which is, of course, lost in the translation.—R. K.

Gräfenberg, a mountain near the town of Freiwaldau in the Sudetenland (Bohemia). When still a boy, his keen observation of Nature gave him the idea that fresh water must have great powers of healing. While looking after cattle, he observed how a roe, wounded by gun-shot, used to come each day to the same spring, in order to bathe its wounded leg. He observed, too, how each day it would limp less and less, until finally it became quite well again. He noticed how the peasants wrapped ailing cattle in damp packs, to make them sweat out their fever. He healed his own crushed finger by bathing it again and again in cold water. At the age of 16 (!), he began treating patients. After twenty years' practice, his creative work reached its peak, and he carried it on right until his death.

Apart from the very sketchy "Familien-Wasserbuch" ("Family Water Book"), which is in any case not always intelligible to the general public, no other writings of Priessnitz' exist. What little we know about his cures we owe to reports of his pupils and patients. His treatment, as ultimately developed, consisted of washing, packs ("Wickel"), and cold to tepid baths. Washing—partial or whole—was carried out with a sponge, or simply with the hand. The packs were divided by Priessnitz into *soothing* and *stimulating*. The soothing, cold, pack was replaced by a new one as soon as it began to grow warm, a practice which was frequently repeated. The stimulating pack was left on until the body had become warm and dry. It might be left on for hours at a time, sometimes being worn for several days, and was only taken off when finally dry. Most patients, for instance, used to wear the abdominal pack or "Neptune-girdle" day and night for months on end. To avoid repetition, the exact manner in which the packs, and other water treatments, were applied will be described in detail in the passage dealing with Kneipp's method (cf. pp. 69 et seq.). Additional packs were foot packs in the form of wet stockings, and packs for head, forehead, neck, lower arm, calf and hand. For large packs, he used the wet shirt and the wet all-body pack: a linen cloth, soaked

in cold water and completely wrung out, was wrapped tightly round the entire body, a wool blanket wrapped on top of this, and covered with a feather quilt. Besides all-body packs, he sometimes prescribed three-quarter or half-body packs, also packs for the trunk only. A special form of pack was the "wet walking-pack" ("feuchte Wandereinpackung"), for which the patient put on a wet undervest and underpants, over this a dry flannel suit, and finally his own suit. As for baths, complete and partial baths were used—cold; warm or hot baths were not known on the Gräfenberg. The cold partial baths were: half-baths and "sitz" baths, as well as baths for the soles of the feet, the feet, legs, thighs, hands, arms, elbows and head-, ear-, nose-, and eye-baths. Priessnitz based his treatment on the body-fluid theory (humoral pathology) and consequently aimed at expelling the bad fluids by violent means. The best method to this end was, in his view, the generation of a healing crisis by fever, to accomplish which he used the dry sweat-pack, followed by cold half- or all-body baths, cold half-baths being preferred. To give some idea of a "*Priessnitz cure*," let us read the account of one of his patients. Dr. Karl *Steiner*, a grammar-school teacher, wrote:

"After being unsuccessfully treated for five years by allopaths and homeopaths for larynx trouble, I decided . . . to visit Priessnitz myself. . . . Next morning at half-past four, he appeared at my bedside, accompanied by Josef, the bath assistant, who was carrying a lantern. When he saw that I was wearing an undervest, Priessnitz said: 'From now on you will wear no undervest.' I undressed, put a sheet round me, and followed him to the cellar: here stood a broad wooden tub, into which I was supposed to jump—into icy-cold water (it was mid-April, and there was still snow on the trees). When I refused to do this, he turned to Josef and said: 'Scared,' whereupon about three cans of hot water were poured into a small bath, and cold water on top of this. I stepped into the small bath and thought everything was over; but this was not the case.

'I will now ask you again,' he said, 'to get into the big bath, for only then can I prescribe treatment for you.' Nolens volens, I jumped in—and out again, in the flash of an eye. He then looked me all over by the light of the lantern and—congratulated me on a good cure ahead. 'Why?' I asked. 'Because your body, after the very first bath, is red all over. If it remains white, a cure may take years. You will have an *easy* cure. Early morning and afternoon you will lie for three-quarters of an hour, covered with a wet sheet and wrapped in a blanket, then you will step into cold water, then dress and go for a walk . . . breakfast is at eight o'clock. . . . Then rest until ten, then a wet rub-down and a 'sitz-bath.' Lunch at one o'clock—English cuisine, without soup, three courses; eat well, for the water cure demands bodily strength. When you have 'steamed' for a second time in the afternoon, and taken a cold bath, you are free, but during the day you will continue to wear a wet band around your trunk and from time to time, about once every half-hour, dip your right hand in cold water and moisten your neck with it—no bandage round your neck.' I followed his treatment in this way from April until the end of July or early August and, to my great joy, Priessnitz' verdict was justified—I made a successful cure. . . . Thus I left the man whom I have to thank for the fact that from 1844 until now (1897) I have never again needed a doctor, and am now in my seventy-ninth year. . . . Now I hasten to answer your latest questions.

"1. How long I ought to stay in the full bath—Priessnitz gave me no instructions on this point: for me, the duration was conditioned by the temperature of the water; in July, I sometimes stayed in it for one or two minutes.

"2. 'Steaming' in those days was understood to mean being wrapped in a wet sheet, over which a blanket was also wrapped; not even the arms were free."

This letter appears in the book "Fünfzig Jahre Gräfenberger Erinnerungen" ("Fifty Years of Gräfenberg Memories"), produced by Captain (retired) Hans Ripper,

a son-in-law of Priessnitz. He adds a note to the effect that the full baths usually lasted five or six seconds.

We learn from this letter : 1. That the *easy* cure was so rigorous that we could not think of demanding it of any man today ; 2. That Priessnitz determined his diagnosis and prognosis (expectation of cure) according to the patient's power of reaction. It was, of course, no diagnosis at all in the orthodox medical sense, but one based on the nature (constitution) of the organism. In this, he was not only ahead of our times, but even superior to them and—extremely rarely made a mistake. Of the 40,000 patients he treated, only forty-five died on his hands—in truth, a figure to put us modern doctors to shame. The average cure was far more severe than that described above. The cure for chronic patients consisted firstly of early *dry-sweating* in bed. Before covering the patient (woollen blanket and feather quilt) Priessnitz laid wet packs on the parts of the body affected. After sweating for one to three hours, the patient took a so-called half-bath, in the course of which he was all the time rubbed over and had cold water poured on his chest and back. Only later did the cold full bath (43-45½° F.) replace this. In the afternoon, from half-past three onwards, the same procedure was repeated. After the sweat and the cold bath, patients would climb the Gräfenberg (fifteen to thirty minutes), undress in the open air and take an ice-cold shower-bath in the water of the mountain stream which poured down at that point (two to five minutes). The cold half-baths and “sitz-baths” lasted from twenty minutes to three hours! They were softened in their effect by continual rubbing of the patient's body. They were also “tempered,” i.e. given cool or tepid (68°-88° F.), but were then slowly made colder, and continued until shivering set in two or three times (“fever half-bath”). “Healing crises” were also meant to be generated in the form of eruptions (rashes) and boils. In the case of feverish acute diseases (infectious diseases) the half-baths were designed to “draw out the heat.”

For the air-and-water bath, the patient, lying or sitting

before a wide-opened window, was wrapped in a wet cloth, rubbed continually in it, while cold water was poured on to his head and other parts of the body as they grew warm. In the same way, patients, after their shower-bath at the top of the Gräfenberg, were made to dry themselves in the air; only after this might they dress and walk home again.

A complete cure used to last from four weeks up to two years, usually taking six months or more. The patient was kept busy the whole day. Priessnitz treated all diseases with the exception of surgical cases. He further treated successfully severe infectious diseases such as typhoid fever, cholera, and black pox, leaving, in the latter case, *no deforming scars on the face*. In his opinion, *water (fresh stream- or spring-water)** could cure everything. The dry sweat-pack was later superseded by the wet pack (one to three hours). He did not treat locally (a given disease or the seat of a disease) but the patient *as a whole*. Priessnitz said: "Our task is not to treat the disease, but the patient. His power of vitality, his will, the activity of his organs, his power of elimination and hematosis (formation of blood)—this is what we must treat. As these factors, in the case of different patients suffering from the same disease, are fundamentally different, treatment must also be fundamentally different, even where two patients are suffering from the same disease." Priessnitz rejected all rule-of-thumb therapy, and treated his patients on a strictly individual basis, assisted in this by his intuitive insight and his ability to sense the thoughts and feelings of his patients.

Let us see the report of Dr. *Unger Leider*, a medical practitioner—also taken from *Ripper's "Fifty Years of Gräfenberg Memories"*:

"Priessnitz suddenly made me lie for two hours, wrapped in two wet linen cloths, after which I had to take a 72° F. half-bath, then a full-bath, then back again into the half-bath. I usually had the half-baths at 72° F. I also had to take a shower-bath for five minutes, Priessnitz prescribing this at a time when I was already sleeping well, enjoying a

good appetite, and was stronger generally: the mid-day 'sitz-bath' and wet rub-down were then omitted. I had to wear the abdominal pack all the time."

After Priessnitz' death, the Gräfenberg establishment was taken over by a doctor, Dr. Josef *Schindler*, who continued the methods of his teacher in exemplary fashion for another forty years. The most successful pupil and propagator of Priessnitz' method of hydrotherapy was, however, J. H. *Rausse* (1805-1848), a forester and author, who himself conducted hydropathic establishments, and was in addition a penetrating thinker and a brilliant writer. His successor was the pharmacist, Theodor *Hahn*, the third of the "Water Hahns" (1824-1883), who founded the "Oberwaid" establishment near St. Gall (Switzerland), and was also a good writer and a good "lay" physician. Another great prophet and propagator of hydrotherapy after Priessnitz' time was Dr. Christian *Örtel* (1765-1850), a grammar-school teacher in Ansbach, Central Franconia (Germany). He founded a number of magazines, wrote innumerable essays and books, and created the "Pan-German Health Society" ("Gesundheitsverein für ganz Deutschland"), as a result of which hundreds of hydropathic establishments were set up throughout the world.

4. *The life and work of Kneipp*

Sebastian Kneipp was born in 1821 in Stefansried near Ottobeuren, in the Bavarian province of Allgäu. He was the son of a poor weaver, whose wife and children had to share his work. He had to earn his own bread as a farmer's boy and, in the winter, as a weaver himself. His most longed-for wish was to become a Catholic priest. He found a protector in the chaplain Mathias Merkle, who prepared him, so that, at the age of 23 (!) he was able to enter the grammar-school at Dillingen, on the Danube. After four years he passed his final examinations. He then studied theology in Dillingen and in Munich. Excessive work and privations had, however, impaired his health. He developed hæmorrhage of the lungs, and was finally given up by the

doctors as a hopeless case. At this time of need, a friend in the State Library gave him one of the Hahn books on water treatment, most probably the work of Dr. Johann Siegmund Hahn, mentioned earlier: "Of the Power and Effect of Fresh Water upon the Human Body." Kneipp tried out this new teaching in his own way. While still in Dillingen, in the winter of 1849, he used to run in the evening darkness, several times a week, to the Danube, half an hour away, dive right into the ice-cold water, dress himself quickly and return home at a jog-trot. He continued this for several months, felt himself getting better every day, finally recovered completely and was able to continue his studies in Munich. There he healed a fellow-student in the same way.

In 1855 Kneipp was appointed father confessor to the Dominican nuns in Wörishofen, a village in the Bavarian province of Allgäu. Here, in the scullery of the monastery, he carried out his water-cures, combining the roles of physician and bath-assistant in one person. In 1880, he became priest of Wörishofen. It was about this time that his success increased, and his fame spread farther and farther afield. The monastery scullery was superseded by a bathing establishment of wooden construction, containing a small corridor. Later followed a large building, the "Kurhaus" or "Sebastianeum." Thereupon, more and more hydro-pathic establishments sprang up, which in turn led to the construction of inns and hotels. In this way, Wörishofen grew and grew until, by 1894, at the outbreak of the Second World War, the number of beds available totalled some 4,000.

During the eighties, Kneipp began giving public consultations. The first doctor to find his way there was my revered teacher, and predecessor in Bad Wörishofen, Dr. Franz *Kleinschrod*. He once gave me the following delightful account of how it all came about:

"When still a young doctor, I had set up in practice in Schlingen, a small village an hour's walk from Wörishofen. It was there that a peasant woman came to consult me

because of bad varicose veins and festering sores on the lower part of the leg. Conscious of my great scientific knowledge, I prescribed for her everything that I had learnt at University. After some time, this woman again called on me, and showed me her feet, now healed. Full of pride in my success, I congratulated her on having carried out my advice so efficiently. 'No, no, doctor, I did nothing of the kind. I went to see Father Kneipp in Wörishofen' was the shattering reply. The very next day, I made my way to Wörishofen, to make acquaintance with the miracle-healer, and at once decided to remain."

That was in 1888. *Kleinschrod* worked together with Kneipp for four years, leaving Wörishofen in 1892, in order to carry on the work in many different places as director of Kneipp establishments, lecturer, and writer. He later returned to Wörishofen and died in Munich in 1894, at the age of 74. In 1892, his work in Wörishofen was taken over by Dr. *Baumgarten*, who remained in Wörishofen until his death in 1924. I shall be referring again to both these doctors at a later stage.

From 1886 onward, the following books of Kneipp's appeared: "Meine Wasserkur" ("My Water Cure"), "So sollt Ihr leben" ("Thus Shalt Thou Live"), "Ratgeber für Gesunde und Kranke" ("Hints for the Healthy and Sick"), "Ratschläge zur Kinderpflege in gesunden und kranken Tagen" ("The Care of Children in Sickness and Health"), "Mein Testament" ("My Will").* Little known is the fact that Kneipp had already written books before this. I would mention only the "Bienenbüchlein" ("Bee Booklet")—Kneipp was an apiarist of some renown—"Fritz, der fleissige Futterbauer" ("the efficient forager"), "Fritz, der fleissige Landwirt" ("farmer"), and "Fritz, der eifrige Viehzüchter" ("the keen cattle-breeder"). All these works ran into several editions. From 1890 onwards, for some time, Kneipp used to give a public lecture of popular appeal in Wörishofen almost every day. Most of these lectures have also been

* Cf. Bibliography at end of this work.—R. K.

printed. In addition, he gave a number of lectures in Germany and abroad, until 1896; in Switzerland, for example, he spoke in Basle and St. Gall, which led to the founding of the Swiss Kneipp Societies (Schweizerische Kneippvereine). No wonder his name was on everybody's lips; no wonder he was overrun with patients seeking his help. During the latter years of his life, it is estimated that up to 30,000 patients passed through Wörishofen yearly. Kneipp died there on June 17th, 1897.

Kneipp himself had recovered his health through Spartan measures. It is thus easy to understand that he first set about his patients pretty drastically. The use of pure cold water came first and foremost, in particular cold washing, cold baths and cold showers, among which the whole-body shower enjoyed preference. The duration of each treatment was far longer than nowadays. Kneipp, however, very soon learned that different persons have different constitutions, and that it was one thing to treat simple country people and another to treat nervous town-dwellers. He thereupon pronounced the following axiom, resulting from his practical experience: "The colder the water, the shorter the time during which it must be applied." Cold-water treatment of short duration is still today considered the best. The system of applying water to the body was refined by means of dividing the jets of water, and thus better and better adapted to patients with various diseases and varying powers of resistance. The whole-body shower was divided up into showers for knee, thigh, lower trunk, back, upper trunk, and face; the whole-body bath was transformed into "sitting-bath" ("Sitzbad") and half-bath, arm-bath, and foot-bath. We now know that these local treatments are quite as good as general applications (i.e. to the whole body), and have in addition the great advantage of being better tolerated and more easily administered in "doses." It is also true that small stimuli are often more effective than large, and are, under certain circumstances, the only ones either possible or useful, in cases where greater stimuli would only do harm. Finally,

frequent repetition of local water treatment, adds up to a powerful "stimulus-total," which is equal, even quantitatively, to general treatment. Washing, showers, packs and poultices, baths and steam—these are the main forms of Kneipp's hydropathic treatment.

The reader who wishes to study Kneipp's teachings and treatment in more detail is referred to the writings of Dr. *Kleinschrod* and Dr. *Baumgarten*. Both doctors rendered immense service in getting this natural therapy established and in developing it further. Their service is all the greater, inasmuch as they had to assert themselves against a host of adversaries who poured contempt upon them and ranked them with the quacks. In addition to their vast, all-embracing medical practices, both men fought tirelessly, for decades on end, in speech and in writing, for their convictions. They also carried out experiments, of equal importance from both practical and scientific points of view, and thereby gave to Kneipp's intuition and experience the necessary scientific background. Their published works are so numerous that it is impossible to enumerate them here in detail. They accomplished all this work, entirely dependent on themselves, and at their own expense, while University professors, with State financial aid at their disposal, did not consider it necessary to study Kneipp any more closely, and simply condemned him to silence or bluntly rejected him from the word "go." This is unfortunately still true of a section of the present-day medical world, which would do well to read and study the books of Kleinschrod and Baumgarten far more, especially Dr. *Baumgarten's* great work "Die Kneippsche Hydrotherapie" and Dr. *Kleinschrod's* "Wissenschaftliche Begründung der Naturheilkunde" ("The Scientific Basis of Natural Healing") which is of particular importance.

All those earlier and present-day doctors who have followed in Kneipp's teachings have refined and further developed the science of hydrotherapy. Amongst such new methods are many which Kneipp himself never knew, as, for example, alternating (hot and cold) showers and

"stepped-up" hot baths. Yet these, too, are fully in harmony with the spirit of the man ; Kneipp used to spend hours deciding how he could improve his methods of healing, and he was never afraid to admit his mistakes and to abandon one method in favour of a better one. His spirit lives on among the best of today's doctors, those who are not content merely to prescribe automatically or thoughtlessly what has been inherited from Kneipp, but who are permanently striving to learn from their own experiences and to perfect the "water-cure." Even today, treasured healing powers, as yet undreamed of, still lie hidden in water ; our task is to raise them on high for the benefit of mankind.

5. *Kneipp's teaching in practice*

(a) *Correct method of applying water treatment*

In applying Kneipp's methods, especially those entailing the use of cold water, the following points must be *exactly* adhered to :

1. *The patient must be warm before every treatment, and must ensure that he gets warm again after it.* The simplest method of achieving this is to take treatment on leaving one's bed and return there immediately afterwards. It is, however, more useful to combine exercises with treatment, i.e. to take a sufficiently long walk or do some gymnastics beforehand. Both are means of warming up the body, or even bringing it to per. piration point, which forms the best preparation of all. After treatment, the same form of exercise is repeated. The exact type of warmth and the exact method of generating it, depends on the circumstances. At night, or in the early hours of the morning, or where a patient is confined to bed, treatment is best taken directly on getting out of bed (and back again afterwards), or even in bed itself.

2. *One must not dry oneself afterwards.* As soon as the clothes have been taken off, treatment must begin *at once*. Any delay or standing around for any length of time is

harmful, owing to the useless loss of warmth entailed. After treatment one should go back to bed *immediately*, without drying, or else dress *quickly* and *at once* begin one's walk, gymnastics, or whatever physical exercise it may be. The aim of not drying oneself is to force the body to evaporate the water which remains upon it. For this, the body needs warmth, which it can only generate by means of better increasing the blood supply to the skin. The circulation is thereby quickened, the heart relieved, metabolism promoted, and the efficiency of the skin, as a respiratory and metabolic organ, improved. A normal skin should eliminate daily about 1 kilogram (2 lbs. 3 oz.) of harmful waste products through evaporation (or even perspiration). The layer of evaporation between skin and clothing quickly warms and dries the skin. After thirty minutes at the most, one should feel completely warm and comfortable again. *If one is not sufficiently warm after this time, or feels shivery or even freezing, such treatment should not be taken.* Exact procedure in such cases must be decided by the doctor.

3. A check, to be carried out either by oneself or by the bath assistant, consists of *testing the reaction*. By reaction, we mean the body's response to the stimulus of the water. This response radiates from the marrow of the spine and effects, by way of the nerves, dilation of the blood-vessels of the skin (capillaries). This dilation is visible in the form of reddening of the skin, and perceptible as a feeling of warmth. According to the manner in which this reddening takes place—whether quickly or slowly, powerfully or feebly—we speak of a good, medium, or poor reaction. This reaction test is an important pointer for assessing the patient's progress and in estimating the chances of improvement and recovery.

4. With the exception of treatment applied in bed, all Kneipp procedures must be carried out in a warm room (59-68° F.). Even in the case of bed treatment, the room must of course not be ice-cold, but at a moderate temperature of about 50-59° F.

(b) *Washing, packs, and compresses*

Washing : Soak a coarse hand-towel, folded in four, in cold or cool water, and wring it out until it no longer drips. In special cases tepid, warm, or hot water may be used. Water is considered cold to cool between 43 and 77° F. : tepid from 77 to 91½° F. ; warm from 91½ to 99½° F.; above 99½° F. is hot. In addition to this objective consideration, the subjective feeling of the patient also demands careful attention. One person feels the cold where another finds the same water comfortably warm ; a third patient finds warm water " hot," while a fourth will not feel warm enough, let alone hot, in (objectively) hot water. This individual sensibility (instinct) must be allowed for in *every* form of treatment.

Washing procedure varies, according to whether in or out of bed. In the latter case, the bath assistant, or the patient himself, takes the wet cloth and begins washing the arms. First the right arm : from the back of the hand to the shoulder, down to the armpit, and down the under-side of the arm to the palm of the hand. Then the left arm, in the same way. On finishing the left palm, take the cloth quickly up to the armpit again, across the shoulder and neck to the right side of the body, thence in quick, long strokes from the armpit down to the heel, across the middle of the foot, up to the chest, down the centre of the abdomen and the inside of the right leg to the foot, up in one stroke to the left side of the body, and continue as for the right side. If the bath assistant does the washing, the back is treated in the same manner as the front. If the patient washes himself, the procedure is different. He should wash the legs first, beginning for this purpose at the heel of the right leg, upwards in one stroke as far as the buttocks, and immediately down again to the heel. The left leg likewise. The towel should then be unfolded, grasped with one hand at each end, and drawn across the back (shoulders lower back, and loins). Finally, the soles of both feet should be quickly washed, first the right and then the left.

This washing amounts in reality to wetting the whole body except the head. In the course of this, the cloth must, of course, be frequently re-soaked in cold water and wrung out again.

If the washing be done in bed, the following method is best, in order to avoid unnecessary loss of warmth. Each leg is first washed separately, and immediately put back into the warm bed. Then follow abdomen and chest, the patient turns over, and the entire back is washed. With this method one should also begin on the right side and work in strokes. The patient is then covered, except for the arms, which are washed last, first right, then left. The whole body is now packed warmly into bed, if necessary with an extra woollen blanket, so that it is "air-tight" and can evaporate properly. The whole procedure should take at most one to two minutes.

The whole-body wash may be replaced by local washing, for feet, legs, arm, upper or lower trunk, etc. The best known of these is the upper-trunk wash, down as far as the hips. Begin with the back of the right hand, up the outer arm to the shoulder, by way of the armpit down the inner arm, up the thumb side of the arm to the shoulder, down the right side of the chest to the hip, up over the middle of the abdomen, across to the left side of the chest, down to the left hip, sideways up to the left armpit, up to the left shoulder, down the left arm to the back of the hand and up the inner arm to the armpit. The cloth should then be unfolded, and the back washed as in the whole-body wash.

In bed, procedure is exactly as for the whole-body wash, but is limited to the upper trunk.

This simple wash is of great value. In most acute (infectious) diseases, it is often alone sufficient to bring about a favourable turn. It may be carried out ten to twenty times in twenty-four hours, according to the patient's temperature. The patient usually breaks out into a sweat after the first three to six washes only. Quite apart from this, he at once feels its beneficial effect, since it cools

down the feverish heat, even if only for a very short time. The temperature as such must not, of course, be fought against, constituting as it does a healing factor of first importance.

Packs : Each pack consists of three cloths, a woollen cloth, a 'tween-cloth of linen, and the actual pack itself, also of linen. The woollen and 'tween-cloths remain dry, while the actual pack is soaked according to what treatment is prescribed. This pack is placed round the part of the body to be treated. The 'tween-cloth, used for hygienic reasons, should on each side be about $\frac{1}{2}$ " to $\frac{3}{4}$ " larger than the poultice itself ; the woollen cloth should in turn be a further $\frac{1}{2}$ " to $\frac{3}{4}$ " wider than the 'tween-cloth.

The Short Pack extends from the armpits down to the middle of the thighs. Once it is put on, the patient, who must be already warm, must on no account leave his bed. The body warmth must be stored ; for this reason he should be packed warmly into the foot-end of the bed—but *in* bed—and covered with woollen blankets and a quilt. The pillows should be arranged, and the pack laid, woollen cloth first, then 'tween-cloth, then the wet linen pack, so that the patient only needs to lie upon it. Quick work is then needed. Grasp the wet cloth with both hands on the far side of the patient, at the same time pressing against the patient's near side with the knees, and then draw the pack with both hands across his trunk, tucking it with the flat hand, taut and without creasing, quickly under his back. The part lying on the near side of the patient is now taken across the trunk to the far side, and also tucked, taut and uncreased, under the back. The same procedure is used for the 'tween-cloth and finally for the woollen cloth. Particular care must be taken to see that the pack is well closed over the thighs and tucked in at the sides. Size of the short pack : $31\frac{1}{2}$ " \times 71" (80 \times 180 cm.).

The Loin Pack is placed from the bottom rib down to the middle of the thigh ; it measures 16" \times 71" (40 \times 180 cm.). Procedure is the same as for the short pack.

The Breast Pack extends from the armpits down to the level of the lower rib. Size and method of application are the same as for the loin pack.

Now we come to the *shawl*, which is not easy to apply, and demands practice and skill. Its size is approximately $5' \times 5'$ (150×150 cm.). It should not be thought, however, that one requires special cloths of exactly the dimensions given for each individual pack. The large ones, such as the woollen blanket, can be used for all packs—excepting packs for the limbs—but they must be correspondingly laid out beforehand. Correct laying out is of exceptional importance; on this, more than on any other factor, depends the smoothness of the whole pack procedure. For the shawl also, then, a large woollen blanket is first used, folded to a length of $5'$. In addition, it should be folded over a good hand's breadth at the top, i.e. the head end. When the shawl is applied, this top fold forms the so-called collar, which is extremely important and must on no account be forgotten. Once the woollen blanket has been prepared in this way, the 'tween-cloth (everywhere $\frac{1}{2}"$ to $\frac{3}{4}"$ shorter) is laid on it in the same way, i.e. also folded back a hand's breadth for the collar. On top of this comes the real pack, the wet linen cloth, folded this time into a triangle, and likewise folded over a hand's breadth at the head end. The patient lies on this so that the top ends of the cloths reach to the middle of his head. With the shawl, the arms are also wrapped inside. The wet linen cloth on the far side of the patient is grasped with the right hand, the left hand taking the top end of the cloth already folded back near the middle of the head, bringing it down taut as far as the neck and holding it there firmly until the cloth held in the right hand has been pleated and brought over the shoulder and tucked taut and smooth with the back of the hand under the patient's near-side arm. The wet (triangular) cloth on the near side of the patient is treated in exactly the same manner, and tucked in on the farther side. The same procedure is adopted for the 'tween-cloth and finally for the woollen blanket. The shawl is then

complete. Its technique is not easy, but quite feasible with a little practice. It forms the basis for various other packs, in particular the whole-body pack.

The $31\frac{1}{2}" \times 31\frac{1}{2}"$ (80 cm. \times 80 cm.) *foot pack* envelops the feet together with the ankle-bones, each foot being wrapped separately. Square cloths of the above dimensions are used, each one being separately folded into a triangle. The foot is placed in the middle of the cloth, so that the pointed end of the wet cloth (and, subsequently, of the other two triangular cloths) extends some $3\frac{1}{2}"$ to $4"$ beyond the toes. This pointed end is laid over the toes and the folds formed thereby tucked in at the sides. The remaining part of the pack (i.e. what is left over after the toes have been enclosed) is now grasped and pulled over towards the ankle-bone on the nearside of the operator. This fold is held fast with the left hand, while the right hand, starting from the heel, makes a tight fold over the ankle-bone on the far side, round to the ankle-bone on the near side, the remaining corner of the cloth being tucked in sideways at the ankle-bone. The wet cloth on the near side is dealt with in the same way, then the 'tween-cloth and finally, when this is properly wrapped, the woollen cloth.

The *foot-and-calf pack*, also $31\frac{1}{2}" \times 31\frac{1}{2}"$, envelops the foot and the calf as far up as the knee. The same cloths are required as for the foot pack, but are left square, in accordance with the part which is to be wrapped. As there is no pointed end to be placed over the toes, the whole cloth, just as it is, is folded some $4"$ over the toes. Procedure is the same as for the foot pack, except that, instead of a pointed end, the entire length of the calf has to be tucked in. The cloth is therefore tucked in sideways along the calf, taut and without pleats.

The *leg pack*, size $31\frac{1}{2}" \times 51"$ (80 \times 130 cm.), covers the foot, lower leg and thigh, up to the hip. Each leg is wrapped separately, just as with the foot-and-calf pack above. This means: (1) The foot is wrapped as described above, after which (2) The remaining cloth is tucked in sideways along the entire length of the leg.

A *simplified method* of applying the *foot and foot-calf packs* is to *put on wet socks or stockings*. For the foot pack, wet socks, knitted in linen twine, reaching over the ankle-bone, with thick woollen socks on top; similarly, for the foot-calf pack, wet stockings of the same material, extending to the knee, and knitted woollen stockings on top of these.

The *calf pack* extends from the ankle-bone to the "bend" of the knee. In comparison with what has gone before, procedure is the simplest imaginable. First grasp the wet cloth on the far side, draw it taut over the leg and tuck it in on the near side with the back of the hand. Then take the near-side cloth over to the far side of the leg, and tuck it in similarly. Wrap the 'tween-cloth and the wool cloth in exactly the same way.

The *whole pack*, usually known as the full pack, may be applied in two ways, either in the form of the Spanish mantle or as a wet shirt.

The *Spanish mantle* is a coat made out of coarse linen, extending about 4" beyond the hands and feet. A linen cloth, approx. $74\frac{1}{2}" \times 82\frac{1}{2}"$ (190×210 cm.), serves as the 'tween-cloth in this instance. For large persons, *one* woollen blanket is not sufficient, and in such cases two must be used. The blanket designed for the upper part of the body is laid sideways across the bed, and on top of this, lengthways, the blanket for the lower body. The patient lies on the linen cloth, which acts in this case as the 'tween-cloth, after having first put on the wet Spanish mantle. The mantle must next be wrapped tightly, i.e. round neck and shoulders with the same technique as for the shawl, round the trunk in the manner of the short pack, the pieces extending beyond hands and feet being tucked in, and the mantle pressed tightly between the legs, so that no air can get in between. The 'tween-cloth and the woollen blanket are similarly applied in the manner of the shawl, short pack and leg pack, except that this time both legs are wrapped up together. This completes the full pack.

The *wet shirt* consists of a coarse linen shirt, reaching from the neck down to the wrists and ankles, i.e. in contrast

to the Spanish mantle, not *beyond* the hands and feet. The shirt is put on in the same manner as the Spanish mantle, and the procedure for the 'tween-cloth and the woollen cloth is also the same.

The *hand pack*, to which we next come, is basically the same in application as the foot pack. Its dimensions are $23\frac{1}{2}" \times 23\frac{1}{2}"$ (60×60 cm.). The three cloths are again folded, separately, into triangles. The pointed end, extending some 4" beyond the fingers, is then folded back and tucked in at the sides. Take the cloth on the far side—let us suppose the left hand is being wrapped—and draw it over by means of a pleat to the side of the thumb. This pleat is held firm with one hand, while the other hand takes a fold over the knuckle of the middle finger across to the thumb, tucking in the remaining point to the side of the thumb. The part of the cloth on the near side is dealt with similarly, and tucked in on the side of the little finger. The 'tween-cloth, and finally the woollen cloth, are dealt with in the same way.

For the *arm pack*, size $23\frac{1}{2}" \times 35\frac{1}{2}"$ (60×90 cm.), square cloths are again used. Here, also, there are no pointed ends to tuck in, but simply the whole length of the arm. The cloths are tucked in, taut and without folds, the length of the arm up to the armpit and shoulder.

The hand pack and the arm pack can of course be combined. To facilitate this, I introduced the use of *long wet gloves*. These are gloves, without separate fingers, knitted in linen twine, and reaching to the armpits. Knitted woollen gloves are worn on top of these.

The packs described here are used when it is necessary to make the patient sweat, or at least to make the moisture on the skin evaporate. By means of the evaporation layer, which forms directly over the part of the body covered by the pack, the body warmth, prevented from escaping outwards, is retained. This produces, by completely natural means, an increased supply of blood to the part, which, as is known, further which healing process of the body. A

similar effect is produced, in a rather more violent manner, by Bier's elastic bandage.

If no warmth or congestion of blood be desired, the packs must not be used in the manner described. In such cases, the usual wet pack-cloth is used, but not wrung out so strongly, laid on in the usual way, together with the usual dry linen cloth on top, but the woollen cloth is not applied. With this form of pack, no condensation layer is produced, the moisture remaining free to evaporate. This causes the part of the body in question to cool off, since evaporation uses up the body warmth. For this reason, such packs are only left on until they begin to become warm. They are then removed and replaced by fresh ones. In cases of high temperature, it may be necessary to change a pack five to ten times in an hour. A good example in practice is offered by inflammation of the neck. When the tonsils are red hot and heavily swollen, and swallowing and breathing become unusually difficult, a neck pack for "drawing out the heat" can be applied as a remedy. In a surprisingly short space of time, usually within an hour, the hyperæmia (excessive blood) in the neck is diminished, the swelling of the tonsils reduced, and the breathing freed. Such packs may, under certain circumstances, even be the means of saving life. Where it is desired to draw the blood away, then, this is the form of pack to be used; in all other cases, where it is desired to increase the blood supply—and these form the vast majority of cases—the usual evaporation pack should be used.

The procedure for washing and applying packs should be known in every household. Every adult should understand how to apply them; they are simple, and are amply sufficient in *all* cases of disease. Did not Professor *Schweninger*, Bismarck's private physician, say: "A wet cloth in the hands of a skilful doctor is worth more than *whole* chemist's shop"? Let us briefly review the effect of the evaporation or sweat-packs: the pack draws the blood to the part covered by it ("arosection"). If evaporation is required the pack is normal and on for one to 1½

hours, all air being excluded. Longer treatment should only be decided by the doctor. To produce sweating, one may use the short pack, the wet shirt or the Spanish mantle. To speed up the process, the patient may be given a few cups of herbal tea, such as camomile, elderberry, or lime-flower. When the pack is removed, the patient should be quickly washed over, or else rubbed until dry.

Cold packs (water temperature 43° up to 77° F.) are preferable, especially in cases of fever. The hotter the skin, the colder the pack should be. In the case of delicate patients, tepid packs (water temperature 77° up to $91\frac{1}{2}^{\circ}$ F.) may be used, at least in the early stages. As the constitution becomes hardened, the temperature may be reduced accordingly. If the patient does not grow warm in the pack, or even freezes, hot bottles or electric cushions must be brought to aid. If these produce no results, the pack must be taken off, the patient rubbed dry, and wrapped up warmly. One must never try to force things; there are many ways of attaining the end in view. Hot packs (water temperature above 99.5° up to 122° F.) are seldom used.

A well-known aid is Kneipp's "hay-flower shirt," a variation of the wet shirt, using hay-flower extract instead of water. Besides hay-flower, other herbal decoctions or additions may be used, e.g. oat-straw, horse-tail (equisetum), oak-bark, camomile, salt, vinegar-water, clay, mustard-powder. Hot packs of this kind are often very effective, but great skill is required in applying them. Besides, they are often too hot for the patient, or they cool off quickly, which produces a feeling of discomfort, the patient being forced to warm the pack with the heat of his own body. This is why packs are usually applied cold from the start.

In applying hot packs, the woollen cloth and the 'tween-cloth are prepared exactly as for the cold pack, but the procedure for the pack itself is somewhat different. The linen cloth is rolled up from both ends towards the middle, and is then quickly but thoroughly soaked in the hot liquid to be used, which should be placed next the patient's

bed. The cloth is then removed as quickly as it was put in. In order to facilitate thorough wringing out, the cloth is now quickly wrapped in a *dry* cloth and grasped by the ends—preferably one person each end—and wrung out. The hot cloth is then taken out, rolled out far enough for the patient to lie on, and procedure then continues as for the cold pack.

Compresses. Compresses are really nothing more than half-packs, and the same considerations apply in both cases. The best known are the body compress (covering chest and abdomen), the back compress, and the heart compress.

Poultices. For these too, procedure is practically the same as for packs. The only poultices of importance are the "hay-flower sack" and the clay compress. If preferred, the wet shirt and the Spanish mantle may also be considered as belonging to the poultices instead of the packs; the question is merely a matter of words.

The "*hay-flower sack*" was introduced into natural healing by Dr. *Kleinschrod*. The following description of it was given to me by Dr. Kleinschrod himself:

Take a pillow-shaped sack made of coarse material, and fill it with "hay flowers" (i.e. the grains and seeds of hay, *not* the hay itself), until it makes a pillow some 4" thick. The length and breadth of the pillow depend on the part of the body to be covered; in other words, it should be as big or as small as is required in each particular case. When ready, place the pillow in a bowl or basin and pour boiling water over it, until the water covers the sack by about 2". (Do *not* boil the sack!) After thirty minutes, take the sack out, and wring it well, *until it only gives off steam*, i.e. all water must be removed as far as possible. If too much water remains behind, the poultice loses its effect. The hay-flower sack should then be carefully felt with the back of the hand, to *avoid its being applied too hot*, as otherwise it may burn the patient. If the sack is to be applied to a wound, the entire wound must first be covered with a piece of ~~linen~~ previously well boiled, so that no dirt may

enter. Over the sack come first a linen, then a woollen, cloth, exactly as with the packs, and after these the patient is wrapped up in the bed-clothes as usual. If the sack is to be applied for two or three hours, or even longer, it must be renewed after $1\frac{1}{2}$ hours, i.e. replaced by a second sack duly prepared in time. Alternatively, one may place a hot-water bottle or an electric cushion *on* the sack, and leave it thus for several hours at a time. The hay-flower sack is exceptionally good as a long-term warmer, and is also suitable for sweat compresses. "Hay-flowers" are of great healing value owing to their content of etheric oils. On removing the sack, the patient should be given a brief wash down, or else rubbed dry.

Clay compress or clay poultice. Potter's clay or "bolus alba" (obtainable from a chemist) should be mixed with a solution of $\frac{2}{3}$ water and $\frac{1}{3}$ vinegar into a paste, which is then spread finger-thick on a piece of linen. The side spread with clay is applied to the part to be treated, a woollen bandage bound on top, and the compress is left until the clay is completely dry. The compress is then removed and the part treated, or even the whole body, is given a quick wash down. The same clay may be used several times over. The best way is to leave on a clay compress overnight. Clay compresses are best used in all cases of inflammation.

(c) *The water-jet or "guss"*

The "guss" forms the kernel of Kneipp's system of hydrotherapy. Kneipp's originality lay in introducing it as a form of treatment capable of greatly differential, or many-sided, application. He used the knee-guss, thigh-, arm-, and upper guss, lower guss, back guss, full guss, as well as smaller kinds for head, face, eyes and ears, which are, however, little used.

The guss is applied by means of a rubber tube about $\frac{1}{2}$ " (18 to 20 mm.) in diameter. The end of the tube should be held about 4" (10 cm.) from the part of the body to be treated. The strength of the jet of water is

tested by holding the rubber tube vertically, end upwards, and placing the index finger above the end, as if it were a continuation of the tube. The correct water pressure (which is, incidentally, very low) is achieved when the upgoing jet of water just reaches the tip of the index finger.

Each guss should be begun at that part of the body furthest removed from the heart, i.e. for the upper or arm-guss, with the right hand, for all others, with the outside of the right foot. The rubber tube should be held exactly like a pencil, apart from the few "ladder movements" for which special instructions are given. For ladder movements, the rubber tube must be held underneath. The water jet should be slow; the patient given time to breathe comfortably; and the operator himself—calm!

The knee-guss. Beginning at the outer side of the right foot, i.e. at the small toe, play the jet two or three times from the small toe to the heel and back, then up the outer side of the calf as far as the knee-joint. Direct the spray to and fro here for about ten seconds, letting the water fall in one "mantle" over the whole of the back surface of the leg. Then down again along the inner side of the leg, and across to the small toe of the left foot. The same procedure is followed as for the right leg, except that, after playing the water on the back of the left knee, the water is again applied to the back of the right knee (again giving a good water "mantle" to the back of the right leg), then again to the left knee-joint—"mantle" again!—and finally down the inner side of the left leg. The patient then turns round, and the front of the legs is treated in the same way as the back. The shin-bone (tibia) should not, however, be given a direct spraying, the jet being directed on to the side muscles. After this, the patient again turns round, the operator slightly squeezes the end of the rubber tube, and sprays the soles of the feet, first the right, then the left.

The thigh-guss. Begin as for the knee-guss, take the jet up the outer side of the right leg as far as the hip, and direct a full, even, "mantle" over the buttocks and the

entire leg, then slowly down the inner side of the right leg. Then the outer side of the left leg, as for the knee-guss, up as far as the hip, a full, even, smooth "mantle," then, just below the buttocks, across to the right hip, another good mantle, below the buttocks again across to the left hip, mantle, and down the inner side of the left leg. In directing the "mantle," the rubber tube must be held so that only the leg itself receives the jet, not the sexual organs as well. On completion of the guss, the soles of the feet are sprayed.

The lower guss : This also begins on the outer side of the right leg, but the jet is brought upwards over the hip as far as the bottom rib, where a good, strong, mantle is given to the small of the back and the loins ; then down the inner side of the right leg. For the left leg, begin on the outer side with the small toe, upwards over the hip to the bottom rib, here again an even, smooth mantle over the small of the back and loins, then change over *below* the buttocks to the right side—mantle—below the buttocks back to the left side—mantle again—and down the inner side of the left leg. Then the front of the body, as already described, beginning on the outside of the right foot, slowly and smoothly up as far as the bottom rib, hold there a moment, then down the inner side of the right leg. For the left foot, begin on the outside, up to the lower rib, hold a moment, then apply strongly to the abdomen in the form of a clockwise spiral, and down the inner side of the left leg, not forgetting the soles of the feet last.

The back guss : This begins in the same way as the thigh guss, except that the jet is not kept over the buttocks for any length of time. Begin on the outer side of the right foot, up as far as the hip, down the inner side of the right leg, and up the outer side of the left leg as far as the hip. At this point the procedure alters. The patient is now given some water in his hands, to apply to the chest, while the operator washes the patient's back a little with his free hand. Next, below the buttocks across to the right arm, beginning at the small finger, applying the jet up the arm

and down again, across below the buttocks to the left arm, up the arm and down again. Then below the buttocks, upwards in ladder movement, slowly alongside the spine, upwards to the right shoulder. Rest here a moment, moving the jet slightly to let a good, smooth mantle run over the back. Down again, alongside the spine, and below the buttocks across to the left side. Again up, alongside the spine, ladder movement up to the left shoulder, a good mantle over the back, down the left side along by the spine, down the inner side of the left leg as far as the foot. Finally spray the soles of the feet, first right, then left.

The full guss. Begin as for the back guss, from the outside of the right foot up to the hip, down the inner right leg. Then from the outside of the left foot, up the left leg to the buttocks, give the patient water in his hands for the chest, the operator at the same time washing down his back, then change over below the buttocks and up to the right arm. Here, move the jet to and fro between the right shoulder and the nape of the neck, to give a good mantle to the right half of the back, in such a way that about $\frac{1}{3}$ of the water runs down the front, and $\frac{2}{3}$ down the back, of the body. Then down the right of the spine, below the buttocks across to the left arm, up the arm, water-mantle as for the right side, i.e. the jet moving between left shoulder and back of the neck, $\frac{1}{3}$ of the water in front, $\frac{2}{3}$ behind. Then down to the left side of the spine, over the buttocks, and down the inside of the left leg. The patient then turns, and the front of the body is treated. The legs are not washed, and the jet begins with the right arm, continuing up to the shoulder, then a water-mantle between shoulder and neck, this time $\frac{1}{3}$ water behind, $\frac{2}{3}$ in front. Next down the right (front) side of the trunk, across the middle of the thighs to the left arm, up the arm, water-mantle between left shoulder and neck, $\frac{1}{3}$ water behind, $\frac{2}{3}$ in front, and down the left side of the trunk, ending with the soles of the feet.

The arm guss. The trunk should be bent forward slightly. Beginning with the right hand, take the jet across the back

of the hand up to the shoulder. Hold here a moment, and give a good mantle over the shoulder-joint, so that the water falls in a broad stream over the whole of the right arm. In doing this, the rubber tube should be held slightly outwards, to prevent any water falling on the back. Next, down the same part of the arm as originally coming up. The left arm is next treated in the same way. For treating the inner surface of the arm, the patient should turn the palms slightly outwards. The jet then goes over the palm, up the inside of the right arm as far as the armpit, thence up to the shoulder-joint, giving it another mantle, down the inner arm again, across the palm, as far as the finger tips. Similarly for the left arm.

The upper guss. The upper guss demands some skill. It is a fine form of guss, and very popular. The entire upper part of the body must be free. It is as well to tuck a towel over the clothing on the lower part of the body, to prevent its getting wet. The patient should again adopt the trunk forward position, the upper part of the body being bent far enough to enable water to run from the region of the small of the back towards the nape of the neck. Begin with the arms, i.e. from the back of the right hand up to the shoulder and directly, without waiting, down the inner side of the right arm, then ladder movement up the *inside* of the left arm as far as the armpit, a circular spray over the chest (for women, a figure 8) including the neck. Then slowly over to the right side of the back, protecting the patient's hair by placing the free hand over the nape of his neck. Holding the tube outwards, apply the jet slowly up and down over the upper part of the back, finally giving a good, broad mantle over the right side, including the right arm. The jet must not be applied to the spine. Next, across the back of the neck to the left upper part of the back, spraying it and giving a mantle to the left side also, the tube again turned outwards. Then down the outer side of the left arm, after which the whole guss is given a second time.

Face Guss. The patient bends forward, and a towel is

placed round his neck. Reduce the power of the jet, and begin beneath the right temple and go slowly round the face. After applying the jet a few times to the forehead, continue over the bridge of the nose, down to the chin.

Ear Guss. The patient should bend slightly forwards, as for the face guss, and turn the head slightly sideways. The jet should again be of reduced power. Spray the outer ear (pinna), first the right, then the left. No water should enter the inner ear.

Eye Guss. Position of the head as for the face guss. The pressure of the jet should be greatly reduced. Begin from the right temple and apply three times slowly round the right eye; then to the left temple, and the same for the left eye.

Head Guss. Begin by the right ear; then along the border of the hair, in ever smaller spirals, as far as the crown. The head and face should be dried afterwards.

Alternating Gusses. These consist of two hot and two cold gusses, given alternately, the hot first, i.e. (1) Water at the prescribed (hot) temperature. (2) Cold water. (3) Hot water, at the prescribed temperature. (4) Cold water.

Case History No. 5. A 50-year-old business man, suffering for years from swelling of the liver, hæmorrhoids, and heart and circulatory disorders. From time to time, water collects in the legs or trunk. He complains of abdominal pains and difficult breathing. Previous treatment had only brought temporary relief.—*Findings*: Tall, powerful man, with thick layer of fat (abdomen). Heart action accelerated, 90 to 100 beats per minute. Blood pressure 190-130 mm. Enlargement of the heart towards the left. Liver swollen and hard; legs swollen as far as the knees.—*Diagnosis*: Hypertrophy (enlargement) of the heart and (cardiac) insufficiency.—*Treatment* is continued for six weeks—in view of the basically strong constitution of patient, almost exclusively with cold water. He is given the following alternating treatment: thigh-guss, upper

guss (this principally), back guss and full guss, also a few high-pressure "Blitzguss"* to thigh and to the whole body. Twice a week, an early morning hay-flower sack on the abdomen. Four times a week, for the whole night, alternately salt-water leg packs and short packs, and once a week a warm, pine-needle, full-bath.—Diet as usual for heart and circulatory disorders, *without* cooking salt.—After six weeks, the liver swelling had disappeared; water no longer collected. The patient had lost 2 stone 5 lbs. (15 kg.), felt very well and fit for work.—He is given a few simple instructions for home treatment. He keeps to this fairly well, and three years later is still enjoying good health.

To give a smooth guss correctly is an art. The bath attendant must only apply the jet of water until reaction takes place, i.e. until redness of the part treated is clearly visible. The jet must then be broken off. If this reaction does not set in after the first application, the guss must on no account be continued indefinitely; in hydrotherapy, as in other fields, nothing can be forced. If, after repeating a few times, there is no sign of even a weak, incipient reaction, the doctor must be informed, and will prescribe other treatment. With careful, suitable preparation and patient handling, success can finally be achieved in every case, even if it takes several weeks.

The so-called "*Blitzguss*" is an exceptionally strong stimulus for the skin. "*Blitzguss*" is not quite the right expression. It is not really a "guss" at all; a guss, in which the water flows smoothly and without pressure out of a tube or a can, produces its effect purely and simply through its hot or cold stimulus. For the blitzguss, however—or rather the "blitz"—a water pressure up to three atmospheres is used, so that its effect on the skin is like that of strong massage. For this reason it is also known as "fine jet massage" ("*Feinstrahlmassage*"). To obtain the necessary water pressure, the normal rubber tube must be fitted with

* Literally: "Lightning jet."—R. K.

a screw-on metal nozzle, the opening of which should be about $\frac{1}{8}$ " (5 mm.) in diameter. By thus narrowing the opening of the tube, the pressure of the water is correspondingly increased, especially if the water tap be turned on full or nearly full. The "blitz," like the guss, can be given as a whole blitz or partial blitz. It may also be given in the form of alternating blitzes, although in this case the difference between hot and cold is hardly noticed. This high-pressure "massage" stands in the front rank by virtue of its effectiveness and the strong reaction produced on the patient.

(d) Baths

Baths may be full baths or partial (local) baths—the temperatures are: cold (up to 77° F.), lukewarm (77° to $91\frac{1}{2}^{\circ}$ F.), warm ($91\frac{1}{2}^{\circ}$ to $99\frac{1}{2}^{\circ}$ F.) and hot (above $99\frac{1}{2}^{\circ}$ F.).

The *full bath* in *warm* water lasts on an average fifteen minutes, variations above or below this time being prescribed by the doctor. Generally speaking, decoctions made from pine-needle, hay-flowers, oat-straw, horse-tail, rose-mary, and other herbs, are added to the water; alternatively cooking salt or wood-ashes. Warm baths have a soothing, relaxing effect, but are also apt to pamper and to soften. For this reason they are only given when really necessary. In general, they are little applied, hot or cold water being usually preferred.

The *cold* full baths should last five to ten seconds, maximum. It is a stronger form of the whole-body wash, and exercises the same hardening effect.

The *hot* full bath is stepped up during application, i.e. it is begun at a temperature of $99\frac{1}{2}^{\circ}$ F. and the temperature is then slowly increased as high as the patient can bear. In order to increase the effect of these baths, the body should be brushed down in water with a hard brush, such as, for example, a good scrubbing-brush. In case of a feeling of fear or anxiety, stand up frequently and cool the head and chest with cold water. A cold compress for the forehead is also to be recommended; this must be

changed several times. The stepped-up hot bath should last from twenty to sixty minutes. One must accustom oneself to it gradually, since it is definitely taxing. Exact details must be prescribed by the doctor. If necessary, the head may also be bathed, to include the ears, but leaving mouth, nose, and eyes free. *Every stepped-up hot bath, even a partial bath, should produce sweating.* To continue the sweat, one should get into a previously warmed bed, without drying, and wrap oneself tightly in. If no further sweating be desired, a quick cold shower should be taken, or a cold wash-down, or the body may be simply dried. In place of the full bath, stepped-up hot baths may also be taken for hands, arms, and feet; there are also stepped-up hot "sitz" baths, half-baths and three-quarter baths. *With these, also, sweating must be generated.*

Warm part baths are only used in exceptional cases. On the other hand, alternating foot- and alternating sitz-baths are frequently employed, as well—albeit less often—as alternating hand-, arm-, half- and full-baths. *Procedure for all alternating baths* is: five to ten *minutes* hot (above 99½° F.) and five to thirty *seconds* cold (below 77° F.), two or three times each, cold last.

Cold baths, like warm or hot baths, may be full or part baths. Cold sitz-baths and half-baths are especially valuable. The cold half-bath, in which the water reaches as far as the ribs, is particularly strengthening and is a great healer. Chest and back should be washed down cold also. Kneipp used to take this bath every morning. The usual length is five to ten *seconds*, but this may in certain cases be increased. This is equally true of the other cold part baths, but in general the principle remains that they should be "short and cold"!

Hot baths may also have herbs, etc., added, as mentioned above, irrespective of whether they be given for themselves alone, or as alternating baths.

Cold, warm, and hot baths are valuable aids in the struggle against disease and the fight to keep one's health. In fact, as everyone must admit on clear reflection, they

form an essential part of any daily hygiene worthy of the name.

Case History No. 6. A 68-year-old man, of private means, had a stroke followed by paralysis of the right side of the body. Six months later he had recovered sufficiently to be able to walk, albeit with difficulty, with the support of another person to accompany him. The right arm still without strength, and speech impediment remained. Rectum and bladder not affected.—*Findings* : Man of medium height, pale complexion. Asthenic type. Musculature and fat both medium. Blood pressure 170-130 mm. Highly intelligent, excitable disposition.—*Diagnosis* : Paralysis following stroke.—*Treatment* : Vegetarian diet, no salt : Kneipp cure of eight weeks' duration. Twice a week, a warm full bath ($91\frac{1}{2}^{\circ}$ – $99\frac{1}{2}^{\circ}$ F.) for fifteen to twenty minutes ; also twice weekly a stepped-up hot hand bath for twenty to thirty minutes, until sweating produced. Early every morning an upper-trunk wash (later full-body wash) with water of about 68° F. Three nights a week, a foot- and calf- pack (wet stockings), twice a week alternating knee-guss, and once a week an alternating arm-guss. During the latter four weeks, this is replaced by alternating thigh-guss twice a week, and during the final two weeks an alternating upper guss once each week. Treatment assisted by massage of the entire body twice a week.—After eight weeks, the patient was able to walk alone comfortably, supported by a stick. He returned home, having had a few simple home treatments explained to him, continued to improve, and two years later had so far recovered as to be more or less equal to the demands of everyday life.

Warm and hot baths are indicated for elderly persons or otherwise weak constitutions. One must never forget, however, that a *gentle* toughening process with cold water can never do any harm. Stepped-up hot baths are especially indicated in cases of narrowing of the blood-vessels (high blood pressure) or stiffening of the joints (arthrosis). A

simple stepped-up hot bath, which can generally be borne even by weakly patients, nearly always succeeds in producing a sweat after a very short time. This bath, however, must in every case be prescribed by the doctor.

(e) *Steam-baths*

For steam treatment, boiling water is used, supplemented in certain cases by decoctions of pine needles, hay flowers, camomile, fennel, and other herbs. The boiling water (2 to 3½ gallons) should be poured into a wooden vessel, over which is laid a wooden "grill," and on top of this a lid.

Head steam-bath: The upper trunk should be bare: the head is isolated by means of a 'tween-cloth and a woollen blanket reaching to the ground. The vessel with the steam is stood on a chair in front of the patient and enclosed in the "cloak" formed by the cloth and blanket. The lid is removed, the patient supports himself with the lower arms on the wooden grill and, leaning forward, bends his head over the vessel. No steam must escape. In order to accustom oneself, the head should first be held some distance away from the water, but should soon be brought nearer, whereupon deep breathing should continue in this position for ten to twenty minutes. A cold wash-down should then follow, or else a cold upper guss, or a ten-second cold half-bath. In order to keep the temperature of the hot steam constant, heated bricks may be placed in the water as it begins to cool; but this must be done carefully, in order to avoid burns from splashes of water. The head steam-bath is indicated in cases of inflammation or suppuration of the cavities of the frontal, nasal, or maxillary (jaw) regions, also for catarrh of the respiratory passages.

Abdominal steam-bath. The vessel containing boiling water is placed in a night-commode, the patient removes his lower garments, and sits slowly and carefully down. A linen cloth and woollen blanket are wrapped round to prevent steam escaping. Duration of treatment ten to twenty minutes, followed by a wash-down, half-bath, or lower guss. This steam-bath is taken in cases of abdominal

disorders, such as intestinal or bladder cramp, constipation, etc.

These two part steam-baths are quite sufficient. Even they are far less used today than fifty or a hundred years ago, since sufficient alternative methods of treatment are available. The remaining part steam-baths have fallen completely into disuse.

I should like to take this opportunity of mentioning also the Finnish "Sauna" bath, and the Russian steam-bath, which I know personally from the time I was in Tsarist Russia prior to 1914, as a young man. The Finnish Sauna is a hot-air bath, which is finally transformed into a steam-bath by pouring water on to the hot stones: it concludes, like the Russian bath, with cold water or snow treatment. There is no doubt that the Sauna and the Russian bath are considered by eastern peoples as a means of restoring and toughening the body, and there is no reason why they should not both play the same rôle amongst us. If they have not yet been accepted into our methods of treatment, the chief reason lies in the fact that they are generally in the form of communal baths, i.e. for *several* persons in *one* chamber. This means that each individual must necessarily inhale the toxins evaporated by the bodies of the others. For this reason, we doctors, knowing as we do of numerous diseases unknown *by* and unknown *to* the person carrying them, feel bound to reject the *public* use of such baths, at least in the case of those suffering from disease.

6. Priessnitz and Kneipp. *Nature and comparison of their methods*

The method of water treatment set out in Sebastian Kneipp's writings, and subsequently developed by his successors, answers every requirement that even the most critical can demand of a modern system of hydrotherapy. Yet the priest-doctor Kneipp was not only a great "water-doctor," but a man who unearthed and exposed other traditional methods of natural healing. He rendered great service in calling attention once again in no uncertain terms

to the healing power of plants. In an age when the chemical analysis of substances extracted from healing-plants was marching from one triumph to the next, Kneipp raised his voice in order to put in its right perspective the healing power of the plant *as a whole* with its roots, bark, stem, leaves, and flowers. Long-forgotten herbs, wild and cultivated alike, were thus restored to honour. With his demand for the use of herbs or specific parts of herbs in their natural state, *without* any artificial chemical dissection, Kneipp was many decades ahead of modern scientific theory. For today it is known that chemical dissection may indeed produce the actual substances (alkaloids), but that numerous secondary substances are deprived of their effects in the process—effects which are themselves by no means fully understood as yet. Yet these numerous secondary substances were and are necessary to remove, or at least diminish, the harmful results and undesirable “secondary effects” arising from the use of individual substances for themselves alone. For this reason, there is today a widespread tendency to return to the use of the whole plant, or at least of whole parts of it.

Kneipp prescribed herbs to be taken raw, or in the form of extracts in water or alcohol, and, above all, as tea. Leaves and flowers were to be used as infusions; roots, stems, and bark to be boiled in water, i.e. as decoctions. Kneipp further drew attention to the importance of using kitchen herbs in cooking.

Sebastian *Kneipp* was a health leader and a health teacher, who did not overlook a single aspect of daily life. In hundreds of lectures, and in his books, especially in his work “Thus Shalt Thou Live” (“So sollt Ihr leben”) he flayed the faults and the softness of our over-civilisation, and demanded a return to a modest, simple way of life. It was he who introduced the coarse, home-woven linen shirt, and linen underpants. The shirt, he said, must have a broad, soft collar, and the underpants should be cut wide and short, so that fresh air can circulate constantly over the body. Coat and trousers must be soft, light and not too tightly woven.

He thundered against such habits as over-heated rooms and staying all day indoors, and advocated a reasonable toughening procedure, *without* any exaggeration or fanaticism. In particular, he took under his care poor and sickly children, whose health had been destroyed by coddling parents, and founded for them, out of his own pocket, the large Children's Home ("Kinderasyll") in Wörishofen. To the sorry parents, he explained their faults, and told them they were accomplices in the ills that had befallen their children. He demanded healthy, sunny homes and a way of life in harmony with the good earth.

Kneipp had sufficient insight to realise that his work could be of no permanent value unless it were carried on by skilful doctors. He longed for the co-operation of good doctors (the burden of his practice soon became too heavy for himself alone), invited them to take part in his consultations, and initiated them into the results of his experiences. During the latter years of his life, hundreds of doctors from all over the world made the pilgrimage to Wörishofen, and took back their newly-acquired knowledge to their homelands, where hundreds of thousands of human beings were able to profit from them. The world-wide influence exercised by *Kneipp* is well known. Even Pope Leo XIII readily followed the instructions which *Kneipp* gave him personally when in Rome.

It is a sorry, ugly comedy for the true friend and convinced adherent of natural living and natural healing to see how Priessnitz and *Kneipp*, the two great pioneers in hydrotherapy, have at all times, up to the present day, been subjected to persecution. It is easy to understand that representatives of so-called scientific or orthodox medicine strive to reject and ward off everything that conflicts with the hallowed teachings of their "closed shop." This shop includes primarily the professors of medicine at the universities and the doctors taught by them, but in practice extends from the dancing, black-magic medicine-man of a lonely south sea island to the privy court physician

with his orders and decorations. The assumption that all these men—hundreds of thousands, not to say millions of men—reject natural healing methods out of economic motives (commercial rivalry) seems to me to be mistaken. Everyone acquainted with life knows that they have no reason for this. Their material existence is assured for all eternity ; it reposes upon the indestructible foundation of human stupidity. No—it is not this that prompts their attitude of refusal. There are numerous honourable men amongst them, to whom material considerations are entirely foreign. They work and struggle out of deepest conviction, often under sacrifice and in great danger, against disease and death. As a result of the knowledge imparted to them by others, as well as the experience of their own lives, they are convinced that this struggle can only be fought in the way they have themselves adopted.

If one could make these men realise that they are on the wrong path, and that their methods cannot lead to the goal of a healthy humanity, they would be the first to turn about and make common cause with us. But that is just what we cannot do. For these men, like ourselves, have their roots in the past, and are the prisoners of teachings and methods handed down to them. In contrast to us, however, they see only that which they call science. They well know that science can also err, and are at once ready to abandon methods which they recognise as mistaken, but they never lose their belief in science as such. They believe in it like a god, whose commandments must be obeyed. *In this deification of science lies the evil.* Yet science is no god to be worshipped ; it is the work of man, as much as everything else that man has created. It is good, fine work, as good and fine as its twin creation, art. We must never lose the one or the other ; they are the most costly treasures we possess, and, if we had no other weapons left, we would defend them with tooth and nail. Their loss for us would amount to the destruction of moral and physical values. But for the very reason that we recognise this deep in our heart and in our consciousness, we must never forget that

both are but the work of man, whereas *Nature, and we mortals as creatures of this Nature, are the work of God.* As long as God's work stands above the work of man, Nature must remain our supreme Teacher. A beautiful landscape seen and experienced by *us*, gives us far more than the most beautiful of painted landscapes can ever do. Even the best science, based upon observation of Nature, still remains derived (abstract) Nature. And we demand organic, living (concrete) Nature. We observe it, and learn from it *directly*. We make experiments primarily upon ourselves, in order to check and confirm the rightness of our observations. We make them only when we are no longer able *completely* to trust our instinct. An *infallible* instinct is of more use to us than an often deceptive intelligence (reason).

We think highly of science. Our ideal is to bring science and Nature into accord and harmony with one another. But we also know that, where agreement does not exist, *where science and Nature are in opposition, it is always science that is wrong.* This is nowhere more easily recognisable than in the treatment of disease. For 2,500 years, from Hippocrates to the present day, amazing successes have proved that the basic principles of natural healing are true and therefore eternal. The many hundreds of doctors and laymen who have applied them are essentially in agreement on this point. *There is only one truth.* This is equally true of scientific healing. But where and at what time has this truth ever been demonstrated to us? "As long as man striveth, so long doth he fall into error" ("Es irrt der Mensch, solang er strebt"). Man has stumbled from one error to the next, and each error, in its time, has been proclaimed as the final and only truth. In spite of this, we are bound to continue, we must strive onward. In our scientific search after truth, we find on our way many a grain which contains some infinitesimal part of this truth we so ardently crave. Let us lay these individual grains carefully on one side! They are precious. If we examine this scant treasure more carefully, we shall be

surprised to discover that it fulfils down to the finest detail our ideal of harmonious agreement with the demands of Nature.

If naturist doctors* understood more of the soul of orthodox medicine, and orthodox medicine knew more of the deep conviction of honourable and serious naturist doctors, their reciprocal relations would be good, perhaps even friendly. Ignorance on both sides is alone responsible for the fact that chronic misunderstandings will not disappear. We know that the attitude of orthodox medicine towards natural healing is fully understandable. Less understandable, sometimes incomprehensible and even pitiable, is the eternal strife amongst "naturopaths" as to what is the "right" teaching and the "right" method of treating disease. Priessnitz, for example, is reproached for having treated his patients too harshly, and therefore wrongly, whereas Kneipp, it is said, introduced "mild" methods. But Kneipp is criticised for not having introduced anything new, and for "stealing" his method of treatment from Priessnitz. I know that the very few worthwhile minds in both schools merely laugh at this ridiculous chatter, so dear to petty carping critics and those who, in their ambition, would fain cut an important figure. But since this has all found its way into health literature, I feel forced to make my position clear.

Firstly, the facts. Priessnitz lived from 1791-1851, Kneipp from 1821-1897. Priessnitz practised for about thirty years, Kneipp for about forty. Priessnitz treated altogether 40,000 patients, Kneipp many times that figure. Both men had great successes, and both were world-famous. Both were men of intuition and genius, gifted with an outstanding capacity for sharing the thoughts and feelings of others, as if they were their own. Both made fresh, cold

* The German word is "Naturarzt"—literally, "nature doctor." The current Anglo-American term "naturopath," besides being an etymological abomination, is misleading, since it is not normally understood to include practitioners of natural healing who have qualified for a medical degree, such, for example, as the author
—R. K.

water the basis of their treatment. Both were philanthropists, and were inspired by love of their fellow-men and sympathy with those who suffered. Both were strong-minded personalities who rejected compromise. *They are together the most outstanding representatives of natural methods of healing so far.* Objective criticism of the manner and method of their work is exceedingly difficult, owing to the fact that we have no writings of Priessnitz'. Everything we know about him comes from his pupils, supporters, adversaries, and patients. For this reason alone, our picture of him inevitably suffers from a certain subjective lack of clarity. In the case of Kneipp, on the other hand, we possess an extensive literature in the form of books and lectures. That he also had enemies as well as friends is obvious in view of his great personality. It should be mentioned, incidentally, that Kneipp dictated his books, since he found no time for writing. In these dictated writings, we are left with a faithful picture of what he achieved and what he wanted.

Our indirect knowledge of Priessnitz' methods shows that he was an utterly convinced exponent of water treatment *pure and simple*. He used water at a temperature of 43° to 88° F., i.e. ice-cold to lukewarm. Even for many of his contemporaries, his methods were too harsh; to us moderns, they seem draconian. His sweat-treatment, both dry and wet, seems barbaric; his long, cold half-baths would terrify any patient today. We understand his "heat-extraction" baths and packs, but consider them too much of a good thing. His "fever-generating" half-bath, on the other hand, remains quite unintelligible. One cannot imagine how a cold bath, applied until the third bout of shivering sets in, can possibly generate fever. No proof is to be had, since nowhere is there mention of temperature having been measured. Nor can one understand how serious invalids could be required to take an ice-cold shower bath of two to five minutes, naked in the open air, even if the full force of the impact were softened by clasping the hands above the head. The method of drying the body

in the air after the " torrent-shower bath " (" Sturzdusche") and the " air and water bath " are equally incomprehensible. Although Priessnitz set great store by air and exercise, they were for him factors of only second-rate importance. His patients were occupied for the greater part of the day with water treatments, and cold water at that. *At no time did Priessnitz use warm or hot water.*

Even if many of the methods prescribed by Priessnitz no longer seem understandable today, we must nevertheless remember that he always proceeded individually with each patient. For one, the cure would be moderated, for another, made stronger. Here the temperature might be lower, there higher ; this treatment might be shorter, that one longer, this one applied a few times only, that one many times, and so on. From all of this we learn that *Priessnitz was a genius in the art of individual treatment.* He did not bother about " orthodox " diagnosis ; the norms of his diagnosis were the vitality and instinct of his patients. I personally am not acquainted with present-day treatment à la Priessnitz, let alone the methods employed in Priessnitz' own day. I have neither experienced them on my own body, nor prescribed them for my patients. I am neither able, nor entitled, to pass judgment on something I have neither experienced personally nor acquired as certain knowledge out of many years' practice. Yet this much I may declare : harsh and mistaken as Priessnitz' individual methods may seem to us, his enormous successes, even among serious invalids, are historically established, and irrefutable—only forty-five fatal cases among 40,000 patients. We are therefore bound to admit, in awed modesty, that the methods he used were correct. Those who have more to say or to write on the subject, those who know better than Priessnitz himself, those who yap in watch-dog manner : " Priessnitz ought to have used water at 58° instead of 57°, or at least reduced his torrent-shower bath to thirty seconds, and omitted the air bath altogether, etc."—such persons run the risk of not being taken seriously and of

being relegated to the obscurity to which they belong. "Cobbler, stick to your last!"

Kneipp and Priessnitz had many forms of treatment in common; to take a few examples, the cold bath of five to ten seconds' duration, walking in water or in the dew, going bare-foot, and the loin pack or short pack, which Priessnitz called the "trunk-strap" ("Leibbinde"). Then, the wash-down, for which Priessnitz admittedly used more water than Kneipp. Furthermore, the system of evaporating the body moisture in bed or in one's clothes, for Kneipp also made patients wear the loin pack during the day's work. Both men also prescribed water internally; both considered there was nothing better than a drink of fresh, cold water. Although both men advocated moderation in this connection, it seems that water drinking on the Gräfenberg was carried to extremes—some patients drinking up to twenty-six pints daily—and finally fell into disuse.

To draw the conclusion from these and other common factors that Kneipp simply took over his water cure from Priessnitz is, however, as false as it is malicious. Certainly, it is undeniable that Priessnitz lived and practised before Kneipp, for he died in 1851, before Kneipp had even been ordained as a priest, let alone come to Wörishofen. Nor can it be denied that, at the same time as Kneipp was practising his sensational cures, Dr. *Schindler* (who died in 1891) was carrying on Priessnitz' work on the Gräfenberg with great success. It is a fact that Priessnitz was famous throughout Europe and America—a letter from America addressed to "Herr Priessnitz in Europe" reached him safely; that he was a powerful force in spreading the practice of healing by water—over a hundred hydropathic establishments sprung up at that time; that his name was continually mentioned in newspapers, magazines, and books, and that a man like *Ortel*, the "water-apostle" who for years carried on propaganda in favour of Priessnitz, could not possibly have remained unheard. It is therefore understandable if the average mind considers the assumption justified that Kneipp must have heard of Priessnitz and must have

been acquainted with his methods. Since Kneipp never mentions the name Priessnitz, this same average mind arrives at the conclusion that he purposely refrained from doing so, the better to cover up what he owed to him. All this, of course, *could* be true. Kneipp himself only says that he owed his knowledge of water treatment, and with it his own recovery, to the little book of *Hahn's*, and mentions no other names whatever.

Kneipp was a priest of the Catholic Church, a priest by conviction and innermost calling. He was a true minister of souls, but the bodily frailties of mankind also lay close to his heart. He was selfless, and honest to the point of rudeness. We therefore have no grounds for regarding him with mistrust. We are rather bound to admit the *possibility* of his not having known anything of Priessnitz, just as it is possible in Priessnitz' case that he knew nothing of the two "water Hahns"—Dr. *Siegmund* and Dr. *Johann Siegmund Hahn*—although both had lived and practised long before him, in Schweidnitz, only sixty miles away, and their writings were known far and wide.

As personalities of more-than-average stature, Kneipp and Priessnitz have also to be assessed by more-than-average standards. It is not rare to find men of genius producing identical or very similar creative ideas quite independently of one another. In their *fundamental* conception of the outstanding importance of water as a healing agent, both men are agreed. That they sometimes differ as regards details of method is a matter of secondary importance.

Kneipp used water also in its warm state ; alternately hot and cold ; and, lastly, as steam. An important innovation was his introduction of *not drying oneself* after water treatment. He recommended walking on wet stones, and in freshly-fallen snow. Above all, he tempered down the various methods of treatment, and combined them into a system. "The colder the water, the shorter the period of application." He stressed the importance of *cold* water for toughening the body. His *cold* "guss" was something

entirely new, and still forms today the central pivot of the "Kneipp cure." In addition, he established an important system of herbal treatment. None of this do we find with Priessnitz. Like Priessnitz, Kneipp also strenuously advocated *the treatment of the patient as a whole*. Like Priessnitz, he was for ever learning, altering, improving, modifying, always adapting his approach to the constitution of the patient and his condition at the time. *Kneipp, too, was a genius in the realm of individual treatment of the patient.*

Nature provides water in abundance at the service of even the poorest of men. It is a means of health and a means of healing of exceptional worth. There are a hundred different forms in which we can make use of it. But we must use it with understanding. Gentle measures, such as washing and baths, can be permitted in the case of healthy persons without further ado. Those suffering from disease, however, must at all costs consult a doctor schooled in hydrotherapy, and let him prescribe the treatment suitable for them. Of water, also, one may say that its wrong use does more harm than good. We do not want to be coddled creatures, but still less do we want to set up as water fanatics. *In this respect, also, we must keep our sense of proportion, and observe the "juste milieu"!* We shall then be able to test each day the truth of the proverb: "*In water lies salvation*"!

CHAPTER IV

THE INDIVIDUAL HEALING FACTORS—THEIR VALUE, LIMITATIONS, AND GENERAL EFFECTS

In the light of the experience acquired over the past two hundred years or so, it would seem to be perfectly possible to arrive at equally successful cures either by air and sun treatment, or exercises and massage, or hydrotherapy. But it is also true that the most outstanding advocates of each of these individual natural healing factors at the same time call attention to the importance of the others, and use them as well. True, these other factors are only accorded a minor rôle, and their own system everywhere enjoys preference. Thus, *Rikli* placed air and sun treatment above all else. For him, man was an air and light creature, not a water-fowl. Tempting as this contention may seem, in practice matters are very different. *Rikli* himself made daily use of water treatment, including steam. The bed steam-bath, in fact, was his original invention. *Rollier*, apparently a one-sided advocate of air and sun treatment, considers correct diet also an absolute necessity, but, on the other hand, never mentions hydrotherapy. It would seem that he perhaps knows of it in theory, but has never made use of it and so lacks personal experience in this field. This is probably due to the fact that from the very beginning he had such enormous success that the need of other forms of treatment in *Leysin* never made themselves felt. Among such additional forms, he mentions only surgery and orthopædics, which, given the type of patients he treats, is both necessary and understandable, though even these are rarely used. The same is true, in general, of cures in *Davos*, with the difference that

lung patients must be accustomed with *extreme care* to fresh air treatment and even more so to sun exposure.

Amongst advocates of remedial gymnastics and massage, we hear little or nothing about the other healing factors. Yet it may be assumed that they, too, have at least called attention to the importance of sane diet and of hardening the system. We know that Dr. *Schreber* forbade all alcohol, and also recognised the value of water treatment within certain limits. His real life's work, however, was devoted to "*Turnen*" and gymnastics in their widest sense.

Kneipp was essentially an advocate of water treatment, especially cold-water treatment. Yet he stressed the importance of a simple, largely vegetarian, diet, of physical exercise (walking) and of toughening the body by exposure to fresh air. Even *Priessnitz*, who at first sight appears to be a pure cold-water enthusiast, attached great importance to fresh air also. He is said to have declared that, if he had no water, he would use fresh air as his healing agent. On the other hand, as far as we know, the two *Hahns* seem only to have used cold water in their daily practice, and their writings also only mention water treatment. They prescribed cold water externally *and* internally. At this point it should be again stressed that they were the real pioneers of modern cold-water treatment.

Is it right to accord preference to one individual form of natural treatment and reject the rest? Our answer must be "No!" The sun fanatic is as reprehensible as the water fanatic, and this is true of healthy and sick alike. Only the doctor can decide which treatment should be adopted in each particular case. For this reason, the layman should be expressly warned against acting "off his own bat," for every form of natural treatment also has its reverse side.

To understand what I mean by this, we must be perfectly clear about the aim, the meaning and the *modus operandi* of such treatment. I have already explained that a disease must not be regarded as a purely local phenomenon, limited to a particular organ or system, and not affecting the rest of the body; rather does *every*

symptom indicate a diseased state of the patient as a whole. It follows from this that we must not treat the isolated local symptom, but this diseased whole. We know that the dormant forces within mankind are alone capable of overcoming the diseased condition in question. Our efforts are therefore directed towards setting these defensive forces in motion, and increasing their efficacy to the highest possible degree. This is achieved by promoting the circulation and improving metabolism, both of which are closely interconnected. The more quickly the blood circulates through the organs of the body, the more quickly and thoroughly all the cells are freed of their metabolic wastes and supplied with fresh substances. All the organs of the body, especially skin, lungs, heart, kidneys, and liver are thus raised to the highest pitch of efficiency. In this way the body can be freed of diseased matter in a comparatively short space of time, and health again restored.

The restoration of health, in other words, healing, can only be achieved by the body if it itself sets its defensive forces in motion and uses them up in the process. These forces, once consumed, are lost to our total "life-force." This is an unalterable, natural process. Even the healthy individual is slowly and continually using up his life-force. If we wish to live long, we must therefore only use up this force as and when absolutely necessary, and should avoid everything that is not essential to the maintenance of health and peak efficiency. Every "too-much" and every "too little" is wrong. The very art of life consists in keeping this golden mean. What is true of the healthy individual applies equally to the invalid. Once he has recovered his health, he should only adopt such hardening methods as are necessary to prevent future illness. Everything unnecessary is superfluous and, as such, harmful.

A sick man, then, should also only undertake such treatment as is absolutely essential to recovery. He, too, should use his resources. Let us take the ordinary thing, a cold, as an example. It should only be applied to the maximum reaction (reddening of the skin) be obtained,

and then at once broken off. This example applies to all water treatment. It is quite wrong to imagine that recovery can be speeded up by forcing and prolonging each treatment. Those who cheat at this game of strength are only harming themselves ; they use up their forces unnecessarily and—delay recovery. It is equally useless, equally harmful, to continue a cure once recovery has been made. At first, one should at all costs let up for a while, and only at a later stage should one undertake periodic " preventive cures " embodying a few gentle methods. In this, too, the doctor's prescriptions should be followed.

The sense of what I have said here about water applies just as much to air and sun treatment and to physical exercise. To exercise moderation everywhere, to find the golden mean—therein lies the greatest art of doctor and patient alike. The doctor's assistants, of course, must also understand this art, and practise it.

In particular, it is the doctor's task to decide in each individual case which natural healing factors are to be adopted, in order *to attain his objective* (i.e. complete cure) *with the minimum expense of time and (the patient's) energy*. The duration of treatment is also a factor to be considered in this world of busy humanity. The money factor is also closely bound up with that of time. Health must not be the privilege of the wealthy, but must again become something which *all* mankind takes for granted. Meanwhile, the general question as to whether normal orthodox treatment or natural healing methods better meet the above conditions has long since been decided in favour of the latter. For us, the only question is to recommend that particular form of treatment that shall bring him most quickly to his goal. Experience may teach us that it is possible to cure a patient by air and sun alone or by exercise and repose alone, or by water alone. On the other hand, a critical assessment of all the relevant factors also teaches that much strength and time can be spared by choice of method in each individual case. There is, for instance, a difference between maintaining or recovering one's health by means of exercise (sport,

gymnastics, massage, etc.) costing much time, energy, and money, and reaching the same end by simple, inexpensive, water treatment which often takes only a few minutes to apply. Frail and elderly individuals are seldom in a position to undertake active exercises. For them, water, at one or other of an endless variety of temperatures, forms an excellent alternative. Without straining their own strength, they obtain recovery through the reaction of the blood, and the improved metabolism derived from it, in exactly the same way as if they had actively exercised their own bodies. There is likewise a difference between healing tuberculosis of the joints by air and sunlight in one to two years, and healing it by water, in combination with air and sunlight, in three to six months.

In order to know exactly how much energy is used up by each individual healing method, detailed measurements would have to be taken. As far as I know, this has not yet been done in respect of sun treatment or physical exercises.

As far as my knowledge of the relevant literature carries me, such measurements for water treatment were first carried out by Dr. *Baumgarten* and published in his book "Kneipp's System of Hydrotherapy" ("Die Kneippsche Hydrotherapie"). The following details are taken from this source :

Reckoned in units of heat (calories), the energy output of the body in the course of a simple, cold sitz-bath (water temperature 43° F.) corresponds to 3% of the daily output of a heavy worker ; the upper guss uses up 6%, the thigh guss 7%, the back guss $8\frac{1}{2}\%$, the full guss $12\frac{1}{2}\%$, of the same daily output. At the time these figures were recorded, a working day was reckoned as twelve hours. From this it follows that the strongest guss, the full guss, forces the body, by means of reactive heat generation, to use up as much energy as a heavy manual worker in $1\frac{1}{2}$ hours. If we consider further that a full guss only lasts from two to three minutes, it at once becomes clear how much time is saved by water treatment, baths, and to physical exercise. The thigh "blitz" corresponds to 20% of the heavy worker's daily

output, and the full blitz nearly 30%. The full blitz lasts about five minutes, and in this short time the same amount of heat is generated as in $3\frac{1}{2}$ hours' physical exercise.

These simple examples clearly demonstrate the superiority of water treatment.* But they also show what strong demands it makes upon the body's forces, and that consequently one cannot afford to make superfluous use of it. From this it follows that in severe cases of disease a water cure cannot be taken on as a side-show—the patient must give up all professional work while undergoing treatment. This is especially true of mental work, since this uses up the most energy and hence the most heat. This heat is removed from the body. All water treatment taken *in addition to* the daily job means an extra effort for the mental worker. When, therefore, as in cases of extensive treatment, several water treatments daily are necessary, and when this treatment has to be continued for weeks on end, the patient can naturally only recover properly by switching all his remaining energy into the service of the healing process. For less serious diseases, the position is different. For these (as also for prevention of disease), lighter treatment is sufficient, e.g. washing, packs, half-baths, etc., which can be taken during the day without interrupting one's professional work. It is best to apply these in the early hours of the morning (from midnight onwards), since natural body warmth is at its highest during this period.

Case History No. 7. 22-year-old man, severely wounded during the war. The left upper arm and lower arm have been torn to pieces by shell splinters, about half a hand's breadth above and below the elbow-joint. Both bones badly splintered. Large wounds, internal arterial. Suppuration everywhere. Joint quite stiff, strength general.

* Superiority, that is, from the point of view of such a time factor. Many other factors must, of course, be taken into account in order to arrive at a fully comparative study, but it will certainly be illuminating to many.—R. K. means per

condition of patient is poor, owing to heavy loss of blood and to the harassing nature of the journey home.—The young man is of powerful build (athletic type), 5' 11" tall, at present very thin and exhausted.—Many bone splinters are removed in the course of repeated operations.—Since the temperature does not subside and there is danger of general infection (sepsis), the arm is to be amputated, the severity of the wound in any case allowing no hope of restoring the use of the arm. The patient protests against this and wishes to have water treatment, having already some experience in the matter. His wish is granted. Under my supervision, he takes, three times a week, stepped-up hot baths (full bath plus arm), brushing and sweating followed by cold shower and two hours' rest in bed. In addition, he takes air- and sun-baths (upper body and arms), gradually increasing in length. Within two weeks all immediate danger is removed, the wounds begin self-cleansing and healing. At this stage a guss is taken daily in addition, and the sun-baths are lengthened and extended to include the entire body. After two months the patient is sufficiently strong to take longish walks and do light work in the garden. The arm is by now exuding but little pus, bone splinters forcing their way out (sequestra) are removed. The wounds then close up, but the arm remains stiff. For the next three months, the patient takes four gusses weekly and one stepped-up full bath, working naked for hours in the garden and chopping wood. The arm becomes more mobile. At the end of a good six months, he is able to carry out almost every kind of physical work, the arm being now only half stiff. Physical exercises improve the condition still further. A year later, the patient is even able to resume playing the violin, executing all the necessary movements of hand and fingers.

^{July}
 The happy result was achieved in a relatively short time by using the combined effects of water treatment, air- and sun-baths, and physical exercise (useful work and special gymnastics). But for natural treatment, the arm

would have been lost, or the patient would at any rate have been in extreme danger. Had only *one* isolated healing factor been applied, treatment would have taken twice or three times as long.

For decades now I have found combined treatment the most effective. If accurately applied, it almost invariably answers the particular requirements of each individual case. These demands can, of course, only be met if both doctor *and* patient understand the art of such treatment. The decisive factor is not so much the so-called disease itself as the constitution of the patient and his condition at the time treatment is prescribed. In other words, all depends on his reaction to a particular form of treatment. It may happen—albeit very seldom—that he is unable to react to any natural stimulus whatever. Patience is then needed ; the patient must first be given complete rest and his diet attended to. The diet problem is one which has to be solved in all cases. After this, he soon reaches the stage at which he can begin natural treatment.

Even where one natural healing factor is employed alone, treatment must still remain strictly individual. It is by no means the same, for instance, for air- and sun-baths to be taken in the morning as in the afternoon, in spring as in autumn, in midsummer as in winter : much depends also on how long the patient is exposed, and on other factors besides. In the case of water, the exact temperature must be prescribed, and the subjective reaction (instinct) of the patient allowed for. It may be a matter of decisive importance whether the water be cold or tepid, whether warm or hot, and whether it be applied in simple or alternating form. These are all questions which it is impossible to learn just like that, but only as the result of long experience. This may at first all seem complicated to the layman, yet it is, basically, only part of something we ^{all} of us have to practise every day of our lives, namely ^{the} ~~the~~ art of dealing with men as individuals.

Case History No. 8. An old patient ^{of} ~~er~~ ^{mine} ~~one~~ consults me

regarding his 9-year-old daughter. The child has been suffering for nearly two years from tuberculosis of the knee-joint. At first she was treated for six months by doctors, without being confined to bed; then, on medical advice, was sent to a mountain sanatorium, where she has now lain for a year and a half with the leg in plaster. The doctor in charge, when asked when the child would be well again, replied that he could not say exactly; at any rate, the tuberculosis was not yet cured. On further asking whether the child could again be completely restored to health and walk normally, the father was told that the leg (knee) would naturally remain stiff, unless the parents preferred to have an artificial joint fitted. Badly shaken by this answer, the father asked me if I, for my part, considered this a "cure," or whether, with my experience, I could not myself heal the child properly by natural treatment. I told him that, as a result of my experience with other children—at that time I had not yet treated adults for tuberculosis of bones or joints—I could assure him *complete recovery* was by all means possible.

A few weeks after this conversation, the little girl was brought to my house on a stretcher and laid in bed. My first "treatment" was the removal of the plaster cast.—*Findings*: Pale, washed-out looking child, distended abdomen, highly nervous but very intelligent disposition. The knee-joint of the diseased leg was completely stiff and immobile; serious wasting (atrophy) of the entire musculature, and shortening of the leg. Walking, and even standing, impossible. *Treatment*: From the very first day, strong daily dry-brush all over the body, until the skin finally reacts with circulation. Then, morning wash-down of the whole body instead of brushing. About two weeks later, one alternating foot-bath daily, and a stepped-up hot full bath twice a week. After four weeks, the child is able to stand and walk a few steps. The stepped-up baths are continued, the gusses increased in strength and sometimes given cold only. From the very first day, the child is put out in the open air, even in rainy weather. After two

months in all, the little girl is able to walk alone, as far as the stiffness of the leg allows—stiffness still exists, but is considerably reduced. The knee is still swollen. From the beginning of the third month, systematic air and sun-baths are begun; the stepped-up baths and cold gusses are continued. After a further two months, i.e. about four months' treatment in all, only slight stiffness and swelling of the knee-joint remain, and the child is able to attend the local knitting-school, and to play with other children. From now on she also goes regularly for remedial gymnastics. All other forms of treatment, including cold-water treatment, are continued. After a total of five months in all, the child is completely well again. No stiffness, no swelling, strong muscles, equal to the rest, the shortening of the leg has disappeared. The little girl goes to school throughout the winter, in cold weather and deep snow, just like all the other children. During this time, *all* treatment is stopped, except for a daily air-bath—completely naked in the garden—for two to five minutes, in all weathers, however cold, even in snow-storms. It should also be noted that, during the whole of the treatment, diet was strictly vegetarian, including two to three days weekly of raw foods only. Several years later, I saw my little patient again, a pretty, youthful woman and, as her mother assured me, the healthiest of her four children and a valuable help in the home. Not a trace remained of her former disease, or, for that matter, of any other.

In my thirty years' experience as a doctor, the conviction has grown upon me more and more that, of all the forms of natural healing mentioned here, water treatment (hydrotherapy) deserves first place. I have good reasons for this conviction—reasons of practical, rather than theoretical, nature. Not that I am no respecter of theories, but they must be real theories and not "scientific" iews or mere opinions, which are at best but pseudo-theories. Real theories—intuition supported by logical and demonstrable proof—have at all times brought enlightenment to

man and furthered his knowledge. But theories are only real, only true, when they accord with the facts of life. Daily practice is the decisive factor, and daily practice has proved those doctors and laymen right who for centuries past have advocated the natural treatment of disease. Even within this field, many roads, so to speak, lead to Rome; yet the majority of those concerned—and the greatest minds at that—have placed water above all other natural healing factors.

Water is ours in abundance—super-abundance; water costs little; water is at hand at every hour of day and night, winter and summer. It is good for persons of all ages, for infants and sucklings as for the aged. It is there for town dwellers as for country people. Whether I be rich or poor, whether I have a private house or rent a simple room to call my own, water is always there, ready to help me. It may be warm or cold, the sun may shine, the rain may fall, I may be healthy and agile, or sick, confined to bed—but I need never go without water.

Take the case of some acute, febrile disease, such as bronchial catarrh or influenza—water alone is sufficient to deal with it. Depending on the patient's temperature (99.5° to 106° F.), I give from three to twenty complete washings within twenty-four hours. The patient will in all probability break out into a beneficial sweat with the third washing. In any case, it will bring down the temperature a little; the patient feels pleasantly cooled—even though it be only for a short time—and evaporation continues in bed. However, our aim is not to fight the temperature, as such; we know it is really our greatest helpmate. If the patient does not recover as quickly as he should, I prescribe, in addition to the washing, a daily short pack to promote sweating. This is best applied about 5 p.m. and should be left on for one to two hours. To assist the process, I give two to three cups of really hot herbal tea at the same time as the pack is applied (elderberry, camomile, or lime-flower). On removal of the short pack, the patient is given a quick cold wash-down. Anyone following this prescription can be sure of

getting rid of his bronchial catarrh or 'flu in two to three days at the most.

If one does not feel well, but is not actually running a temperature, if one does not feel warm enough, or shivery, one should take a hot stepped-up bath for twenty to forty minutes, brushing the body with a hard brush until one breaks into a good sweat. Then take a quick, cold, wash-down, and retire to bed, having first warmed it well. This may be repeated daily or even, if necessary, twice a day. Naturally, one must also live sensibly in other respects, and food intake should be limited to raw fruit and fruit or vegetable juices. Bowel movement must also be looked to.

Persons in health would be wise to look ahead, and, on hygienic grounds alone, make themselves acquainted with water—cold water, of course. There are said to be people who wash face and hands with warm water, but shun water apart from this. Such unhappy persons are to be pitied ; “ they know not what they do ”—nor what they are missing. Cold fresh water—whether from spring, well, or simply rain-water—should be used daily. It is not enough to wash hands and face—at least the upper body and arms also, and best of all the entire body. This should be followed by a walk, or five to ten minutes' exercises, or else one should at once set about some *physical* work in house or garden. I advise against the use of soap, because it is harmful to the skin. Soap should only be used where there is real dirt to be removed ; this usually only occurs in the case of certain particularly soiling jobs, or, as in the doctor's case, for antiseptic reasons. Even then, it is usually sufficient to wash just the hands. Fresh water on its own “ purifies ” the body in such a way that it is always clean. Strange, incidentally, how soap fanatics hardly ever think, before going to bed every evening, at least of washing their feet, which, squeezed as they usually are into stockings and shoes, badly need having the sweat removed.

It is not even necessary to wash the whole body each day ; two to three times a week is enough. On the non-bath days, washing should be replaced by a morning air-bath

with exercises, and light self-massage for five to fifteen minutes. The advanced reader may instead take a five to ten-second cold half-bath, following this up with some form of exercise, as above. If the half-bath or wash be taken in the early hours of the morning, one may afterwards go back to bed—if so, one can be sure of perfect sleep.

Nature does not ask much of us, in return for health and hardiness. But the little she does ask must be done, and should best be built into our daily programme.

To cure disease—acute as well as chronic—we must use water according to the patient's condition at the time, cold or hot, as a wash or a pack, a guss or a bath, at all temperatures. Once the disease subsides, however, or once we see that health has gained the upper hand, cold water is at all times to be preferred; cold water speeds up the healing process, and helps to *harden* the body and make it resistant to future disease. Some people declare that cold water, or cold in any form, is not essential for this toughening process, and refer to hardening by means of air- and sun-baths, or hot baths and steam-baths. Toughening by means of cold fresh air is by all means possible, but my experience shows that it takes far longer than when cold water is used. As for sun-baths, I have never yet convinced myself that they really harden. Some say that the Japanese, with their daily hot baths (up to 122° F.) are tough enough to bear the greatest hurts and hardships, and proved this in the Russo-Japanese War of 1904-5. It is true that they have remarkable capacity and endurance; it is also true that they defeated the Russians, in spite of the fact that the Russians, for their part, are also in the habit of taking Russian or Finnish steam-baths, and thus ought, logically speaking, to be equally tough. Compared with us Western Europeans, both Japanese and Russians undoubtedly have greater powers of resistance—in a word, are healthier. But the explanation, to my mind, lies, not in the fact that they use hot baths and steam-baths, but rather in their generally simple and natural way of living. Both peoples are vegetarians, almost without exception, both are accustomed

to poverty and hardship, luxury is unknown to them, and they make less demands upon life than the civilised peoples of the western world.*

Toughening means nothing else than accustoming oneself to the largely raw climate of that part of the earth on which we live. The most representative factor of this rawness is cold water, which thus in its turn constitutes the best hardening agent. Once we are used to cold water, we can easily bear fresh air, cold, rain, and sunshine as well. If we lived in hot, damp, tropical lands, "toughening" would take on a different appearance. Cold water there would amount to coddling, whereas hot water, externally and internally (as hot drinks), would harden.

Warm baths should only be taken in special cases. Generally speaking, I would condemn them as tending to soften, and I prefer hot or cold baths. Hot baths, however, should themselves only be used for healing purposes. For hardening, pure cold water should be used, the temperature being adapted to each individual case. In diseases as in health, then, for healing or for hardening, water, and especially cold water, remains chief of our natural healing factors. According to each case, other treatments may be used additionally, to speed up the healing process—air and sunshine, exercise and repose. Where time and circumstances in any way allow, every one of Nature's lavish gifts should be united in order to achieve the greatest possible effect in maintaining health or curing disease.

We must never forget that in all cases of disease—which are but crises in our lives—proper diet is essential. By diet one must understand the arrangement of one's whole mode of life, primarily the arrangement of one's food. Reference was made to this in the Introduction. At this point, I only wish to stress that, *without* proper arrangement

* Modern warfare—even as far back as 1904—brings so many imponderable factors into play that the question of national health cannot, of course, alone be decisive. There can, however, be no doubt, as the author points out, that *both Japanese and Russians are far healthier than the more luxurious-living Westerners.*—R. K.

and adaptation of one's food to the particular disease in question, *complete* cure is impossible, even where natural treatment is applied ; from a health point of view, civilisation has spoiled us all, and led us along wrong paths. All today's doctors agree on this point, of whatever particular persuasion they may be.

Treatment of every disease demands in addition treatment of the diseased soul. Body and soul are inseparable. Psychological treatment, especially of nervous persons, has grown over many decades now to the status of a specialised branch in medicine. In spite of this, there are unfortunately but few doctors who really understand the lofty art of psychotherapy (treatment of the soul) and psychagogy (guidance of the soul). Here is unluckily no place in which to discuss in more detail the significance of the body-soul relationship. For this reason, I shall be devoting a separate book to the subject, entitled "Kranke Körper durch Kranke Seelen."

* Literally "Diseased bodies from diseased souls." The original (German) edition was published by Albert Muller Verlag, Rüschlikon-Zürich.

CHAPTER V

THE IMPORTANCE OF NATURAL HEALING

I. *General*

The methods of natural healing outlined in this work are also known collectively as biological treatment, since they work in accordance with the discoveries of modern biology, which is the science of life. Biologists have proved that living (organic) Nature is governed by laws different from those of the un-living (inorganic) world of physics and chemistry, and that these inorganic laws cannot arbitrarily be applied to the living human organism. Biological treatment of disease, taking into account as it does the laws of living organisms, can justifiably claim to be the only true and correct method of treating diseased mankind. In making this claim, biological medicine is quite clear as to where the boundary lies, and therefore rejects all so-called natural methods which lie beyond this boundary, and refuses to accept them as biological methods of healing. To such methods belong blood-letting, injections of the patient's own blood, the use of leeches or cupping-glass, Bannscheidt's system of skin-irritation, cantharides ("Spanish fly") plasters or fontanelles (issues), setons (hair-threads), burning with fire, and suchlike methods. *Not one of these has the slightest connection with natural healing.* In fact, they all work in opposition to Nature, and constitute nothing more nor less than operative assaults upon the organism. They may occasionally be necessary, and even useful, as aids to healing, but we must never forget that they represent *artificial* stimuli such as Nature herself never demanded of any patient.

The only truly natural treatment is that which aims at

reconciling those persons who have estranged themselves from Nature—not least by excessive use of artificial stimulants—and at bringing them back again into harmony with this self-same Nature. From this it is clear that such treatment must reject all “foreign,” or artificial, stimulants, and limit itself to the task of so ordering the patient’s mode of living that it is equal to the demands, internal and external, of the world around him. Those who believe that no art—however complete—can ever replace Nature, must equally admit that biological treatment represents the *conditio sine qua non* of all other healing methods. Not only does it create the most favourable pre-conditions for any other form of treatment; *in the vast majority of cases it renders all further treatment unnecessary*. Whether such further treatment be allopathic, biochemic, or surgical in no way affects the issue. The use of medicines and drugs, of whatever kind, is and remains an emergency aid. Whether such aid be *really* necessary is itself very questionable. For drugs can never heal; only the patient’s constitution can do that. If diseases often appear to be healed by the use of drugs, the erroneous idea arises from the fact that drugs are foreign bodies to the human organism; the organism thus does everything in its power to get rid of them again. The forces thereby set in motion are often sufficient to overcome the disease as well. Regular use of drugs, however, not to speak of excessive use, so weakens the body’s powers of resistance that it finally succumbs. The same is true of over-powerful drugs. Generally speaking, it is true to say that the weaker the dose of a drug, the less harm it causes.

Surgery cannot be classified with any of the usual methods of treatment. It is, to put it briefly, a saviour in time of need, at a time when man’s stupidity has brought him—with or without medical attention—to such a point that no other way out but the knife remains open. Accidents, of course, are an exception to this rule, and here the art of the surgeon may well be indispensable. It is a sign of our times, and one which gives food for reflection, that

surgery has grown up through force of circumstances to its present stature. In many cases, it has taken over spheres which were formerly the domain of "internal medicine." It is not so very long ago since doctors and surgeons were regarded as constituting completely separate professions, and rightly so. It is certainly no credit to the value of usual methods of treatment to have been pushed so far into the background by surgery. A skilful surgeon who knows diagnosis and understands biological methods of healing has no need of any of the other branches of medicine.

In treating *all* diseases, it is *vitaly necessary* to restore the organism to its natural functions. The *entire* life of the patient must be so arranged as to conform with the demands of Nature and of common-sense. His "bad habits," i.e. disease-building habits—whether acquired or inherited from his forbears—must be replaced by habits that will promote and maintain health or, where health has already been lost, restore it. In practice, then, natural treatment of disease implies the introduction of healthy living habits.

It is a well-known fact that man will oppose any alteration of habits that have become dear to him. "For of pettiness is man made, and habit he calleth his wet-nurse." It is the doctor's task to enlighten the patient and convince him of the need of carrying out the measures he prescribes. This work of enlightenment and education is usually very hard, far harder, at any rate, than writing out a prescription for some medicine. Yet it is a necessary part, an *essential* part of a doctor's work. More than anything else, it helps to strengthen the bonds of reciprocal trust, and to win over the patient so that he really co-operates in the fight for recovery. Without understanding co-operation between doctor and patient, no permanent results are to be obtained.

Modern man has reached a stage of softness and passivity in regard to health which can hardly be exceeded. He prefers to swallow medicines year after year, although convinced of their futility, even prefers to undergo an operation, with its promises of quick results, rather than

renounce accustomed pleasures or make some personal effort to recover his health. None of the usual methods of treatment, including surgery, demands any co-operation on the part of the patient. Yet we cannot do without this co-operation, if only for the reason that it contains within itself a psychological driving force which assists recovery. In this way it is possible to awaken the will to live, to release energy and powers of resistance which previously lay dormant, and build up courage and confidence; the patient realises that it is up to him to win back his own health, under the doctor's guidance; he realises, further, that he is in the long run responsible for his own self; and, hard on the heels of all this, follows the unassailable conviction that *to recover one's health and remain healthy is a moral obligation* which must be fulfilled, in one's own interest as well as in that of one's fellow-beings, inasmuch as the existence and actions in this world of every man worthy of the name depend upon it. This task of educating the patient, which is a permanent part of natural treatment, forms the best protection against stupidity, credulity, and false ideas generally, which themselves encourage and pave the way for disease and want. I do not deny the existence of miracles, but in the ordinary course of events they happen very, very seldom.

To lay too much stress upon unusual phenomena is to assist the handiwork of those quacks who usually choose to base their qualities on "special powers." The great mass of the people is ever seeking after miracles. They love the unknown, the unfathomable, the mysterious, and the less they are called upon to give up their comfortable habits, the more they allow themselves to be taken in.

The damage which modern civilisation has caused to our health, and continues to cause, day in, day out, cannot be removed by the petty wherewithal of a superficial "symptom-cure-opathy." Such treatment is merely a miserable system of patching-up, which merely opens up wider cracks in covering up the old ones. True healing demands whole

measures, such as only exist in the biological form of treatment. The most vital task of such treatment, in addition to direct healing of the complaint in question, lies in the alteration of the entire constitution of the patient. The "imperturbable" strength inherited from our fathers is fast disappearing. Health means nothing else than strengthening this vital force. But it can only be strengthened by simple living, near-to-Nature, and by hardening ourselves. This also applies to those not as yet suffering from disease—prevention is the best means of fighting disease.

Natural healing has been known for thousands of years, it has been advocated and practised by great men. Why is it that it has hitherto gained so little recognition, and has remained, so the speak, the Cinderella of medicine ? Some of the causes have already been mentioned—human indolence, love of comfort, belief in miracles. In this connection I should add that this belief in miracles is closely bound up with belief in magic and magicians. The more man loses his belief in the true God—an obvious characteristic of our present degenerate age—the more this belief is replaced by belief in idols, demons, and magicians—in other words, superstition. Its form may vary; its essence remains the same. Just as primitive peoples accepted blindly the exorcism, the magic formulæ of their "medicine men," so, today, many "civilised" people believe in mysterious, "specific" coal-tar preparations which deal the death-blow to their foes, bacillæ, bacteria, and other poisonous little hobgoblins. These sly, artful little creatures are content to take on the rôle formerly filled by demons, lacking only the advantage of their forerunners' age-old and esteemed tradition.

There is another characteristic of human stupidity which joins forces with indolence and miracle-searching ; I mean, the mania for something new. Only the very latest drug will do. If, in addition, it be cleverly advertised as harmless, and credited with effects which put everything previously known in the shade ; if on top of this it be really expensive, and beautifully packed, it quickly finds acceptance and

topes in money for the manufacturers. Against all this, the simple, naked truth makes a poor showing. The naked truth may be very bitter, and may well offend our pride. We do not like it. However simple it may be—and real truths are always simple—it nevertheless makes certain demands of our power of reasoning. And then, of course, “cheap things cannot be much use . . . What is air, for instance? If we are going to use air at all, then at least let it be compressed air, to please the childlike mind with its ‘zishing’ noise! Or carbonic acid and oxygen, so that at least one can see the drops! And, as for healing disease with ordinary water—well, no such thing exists, of course. If it were at least some special sort of water, drawn from some legendary spring, price 10s. 6d. a bottle—then one could understand its healing properties. The trouble with all these natural healing factors is that they are far too ordinary to be worth anything. No—give me expensive medicine every time, or a spa-cure at some astronomical price, or some marvellous operation!” And so the chatter goes on.

When everything else fails, when disease sucks one down into its bottomless pit—then, but only then, does man turn in desperation to “ordinary” methods of healing. This very fact is a tremendous disadvantage for us. At this stage, we are expected to cure patients in a few weeks—patients who have been ill for years on end, whose diseases have meanwhile reached an advanced stage, diseases which all previous forms of treatment have failed to heal. Yet this is what man’s *un*-reasoning demands. And if we explain to these people that this is impossible, that some months will be necessary to effect complete recovery, they lay a curse upon natural healing, and lament its “uselessness,” instead of realising that everything is their own fault. And if, in spite of all, we do succeed in bringing help in such cases, often given up by orthodox medicine as incurable, even then, the world pays little heed. If natural treatment succeeded in curing even 5% of such “hopeless” cases, it would already be a great achievement. In reality, the percentage is far higher, but unfortunately the general

public pays little attention, and natural healing, which by rights should occupy first place, thus continues its humble existence in the shade.

Today, orthodox medicine can no longer ignore the successes achieved by hydrotherapy and heliotherapy : it has therefore been obliged, for better or worse, to grant them some standing at universities. But these " physiotherapy " institutes lead but a lowly existence. In all the great clinics and hospitals, chemical treatment dominates the field as of old, and the general picture is not altered by the fact that here and there the odd " Priessnitz pack " is applied. Nor is any attention paid to modern dietetic treatment. True, we find liver-diets and kidney-diets and diabetic diets— all prescribed by rule of thumb. But the most important aspect of all, the realisation that no arbitrarily fixed ideas of disease apply to dietetic or any other form of treatment, is completely ignored. Sufficient attention is never paid to the diseased patient *as a whole*. As far as I can see, even those doctors who claim to use only natural stimuli in their treatment have fallen a prey to the suggestions of orthodox medicine, with its system of designating disease (diagnosis). Small wonder, when one reflects that they have all been educated at their university in the spirit of orthodoxy. On reading books written by these " naturist doctors," one is struck time and again by the fact that they give a complete list of " diseases," just like the orthodox school, and prescribe the treatment for each one of them. The only difference lies in the fact that they use no chemical preparations, but only natural ones. Deserving as it may be to explain to mankind that all diseases can be healed as well, or better, by natural means, such methods do great harm to the standing of biological treatment, and compromise any fair estimation of its true worth. *For biological medicine does not recognise diseases, but only the diseased individual.* This axiom is often stressed in theory, but in practice is seldom, if ever, observed. Unless we understand this aspect, we have not grasped the true spirit of biology.

The good cause is compromised perhaps even more deeply by those who think that the genuine naturist doctor need make no diagnosis whatever. This is playing into the hands of every quack, who, imagines he can set to work with his treatment without even knowing the cause of the particular disease. To avoid all misunderstanding, therefore, I should like to emphasise that I consider diagnosis essential in every case of disease. We need uniform definitions for every type of disease, in order to make ourselves understood throughout the civilised world. In particular, we need a local diagnosis, in order to make sure how far the particular disease has advanced. Only in this way, together with a general diagnosis of the patient's constitution, can we obtain some idea of what powers of resistance still remain to the patient, and arrange treatment accordingly. In diagnosing, it is not enough to rely upon "first impressions," or on one's "intuition." To exclude all possible error, it is our duty to examine the patient by every means at our disposal. Such an examination acts at the same time as a necessary check upon our own "intuition." In carrying it out, it is equally important to note both signs of disease (symptoms) and the case history (anamnesis).

Diagnosis of the disease *and* diagnosis of the patient's constitution together constitute *complete* diagnosis, which in turn alone makes it possible to prescribe proper treatment. For *it is always the individual as a whole who is ill*, not just a part of him. The decisive factor in deciding upon correct treatment is a knowledge of the patient's constitution. Since every person's constitution is different, it is obvious that each must be treated differently, even if they be suffering from the same disease. To realise the exact significance of this is to realise how wrong and even dangerous it may be to base treatment on the diagnosis of the disease alone. This may still be all right for the orthodox practitioner, who has a different prescription at his disposal for each particular disease. For the naturist doctor, however, who treats the patient as a whole, such methods become madness. By placing disease, method of treatment,

and remedy on the same level, both schools lay themselves open to the charge of furthering the cause of quackery among doctors and laymen alike—especially laymen, since the layman who knows the diagnosis of his disease naturally imagines that he can treat it himself. I do not need to stress further the dangers that may be incurred by self-treatment of this kind, nor yet the fact that no man—qualified or otherwise—can possibly “treat” disease off his own bat out of books. Since the technical language of orthodox medicine is hard for these “lay physicians” to understand, it is only natural that they usually pounce upon the writings of the natural healing world. In consequence, natural healing wins the evil reputation of being a breeding-ground for quacks and their quackery. This in turn strengthens the prejudiced belief that natural treatment cannot be worth much if every layman can practise it. *The good name, the vital importance and influence of natural healing, and not least the interest of the patient himself, therefore demand that literature upon the subject omit all reference to the treatment of this or that disease and refer the reader to the doctor.* On the other hand, it is vitally necessary that the public be enlightened as to the cause and origin of disease, in order to stamp out its two chief precursors, error and ignorance.

From the very first, natural healing was attacked by its opponents on the grounds that it was pure empiricism (i.e. based on experience only), and lacked any scientific basis. Even today, when hydrotherapy and heliotherapy are recognised and even considered “presentable,” the same attacks continue. The marvellous effects of such methods of treatment are, of course, no longer denied ; but the contention is made, especially as regards water treatment, that it may have its good points for patients suffering from exhaustion or needing a rest-cure, but is unsuitable for healing “real diseases.” For these latter, so runs the argument, only “scientific” treatment by orthodox methods is either appropriate or successful. Naturist doctors, it is true, are no longer denounced as

quacks, but are still looked upon as rather "foreign bodies," outsiders who disregard the laws of science. Their activities thus continue to be regarded as "unscientific" and therefore second-rate. In view of the esteem which we ourselves feel for true science, such accusations are not to be taken lightly. Our duty is rather to examine in detail whether or not they are justified, or whether, as so often in life, the whole question reposes upon misunderstanding. In examining the matter critically, let me make one point quite clear from the start: from the point of view of the patient, the one deciding consideration is whether he be healed or not. Whether he be healed by "scientific" or "unscientific" means is all the same to him. The doctor, too, wishes to help the patient, and to heal him. Since he knows that the chances of recovery depend upon correct treatment, he is always striving to harmonise scientific knowledge with personal experience. The more he succeeds in this, the better he will be able to judge the cause, effect, origin, course, and end of the disease (diagnosis and prognosis), and prescribe treatment accordingly. We must therefore be quite clear as to what is meant by the terms "science" and "scientific."

2. *Is biological treatment scientific?*

Science is that branch of human reasoning which aims at discovering, amid the changing and confusing phenomena of the external and internal world, what is permanent, unalterable, and true; this we call knowledge. *Knowledge and truth are identical conceptions.* But what is truth? It is, to begin with, everything which we cannot think of as being otherwise. This definition is exemplified in ideal form by what we call mathematical or, more accurately, algebraical truth. Every thinking man accepts the fact that $2 \times 2 = 4$; he cannot conceive any other result as being possible ($2 \times 2 = 5$, for instance). *Mathematical knowledge, i.e. knowledge which can be conceived and expressed in terms of figures, is absolute, pure knowledge: absolute in the sense of quality, not of quantity.* Since we

have not solved all the problems of Nature in terms of mathematics, this knowledge remains for the present fragmentary or, quantitatively speaking, only partial truth. We are, however, entitled to the belief that the human mind may advance in stages from one fragmentary truth to another and thus come nearer and nearer to the goal of an eternal, all-embracing truth. Mathematical knowledge is mostly clearly embodied in mathematical physics, which is why this branch of research deserves the definition of a true, complete (exact) natural science.

One might object that physical truth tends to become obscured as soon as figures combine with substance or material, and thereby loses its absolute character ; and that consequently, even in geometry, with its points and lines, i.e. material figures, errors are possible. How much more, then, would this apply to physics, whose field of activity is exclusively material. Tempting as this objection may seem, it falls to pieces on closer examination. Today, it is possible to survey and criticise the long historical development of the science of physics in the form hitherto known and, until recent years, alone considered valid.

Looking back in this way, it can be seen that physicists have only spoken of knowledge and truth where they have succeeded in discovering laws that could be expressed in terms of figures and applied to all inorganic matter. In reality, this form of physics, supposedly concerned exclusively with matter, has unconsciously worked from the very beginning with " power " and " energies " also—that is to say, with purely " spiritual," or non-material, principles. This is sufficiently proved by examples such as the theories of gravity, movement, and electricity. The physicists of old, in their great wisdom, considered themselves under an obligation to limit their research work to matter, to keep strictly within these limits, and avoid everything which had the appearance of " spiritual science." This deliberate restriction of their field of research is strikingly exemplified in the old theory of light, in which

it was considered necessary to replace the "missing" substance by assuming the existence of an ether-substance."

The laws of this branch of physics—macrophysics, as it is now named—still retain their full validity today; they must be considered as true knowledge, and macrophysics itself as true science. Orthodox medicine, which also calls itself a science, thus has the chance of justifying its name, if it can prove that it has found, in exactly the same way that physics has found, a series of laws which can be clearly expressed in terms of figures, and applied to every living organism. Can orthodox medicine do this? Before answering the question, let us remove all possible ambiguity or misunderstanding from the start. We must distinguish between the science of healing ("Heilkunde") and the method of healing, or treatment ("Heilbehandlung"). The science of healing is the knowledge of the nature of healing; treatment, the activity of healing. Treatment can, in theory at least, be practised by an outsider, i.e. by someone without knowledge of healing, as, for example, by means of unconscious magnetic or suggestive powers. Usually, however, the healer has a greater or lesser degree of "knowledge of healing," or "experience," which he applies intentionally in order to effect a cure. *This process has nothing to do with science.* It is purely practical treatment which may be defined, according to its importance, as art, handiwork, or charlatanism. *Science only begins where healing sets forth certain unalterable laws which apply to all and every treatment, and disregard of which makes healing itself impossible.* Orthodox medicine has nowhere established such laws. *It cannot therefore be granted the designation of an independent science.*

Present-day orthodox medicine is based primarily upon the findings of physical chemistry and physics, two fields of research which, from the point of view in question, largely overlap. Orthodox medicine has borrowed its knowledge from these two sciences, and applied it to the living human organism. In doing this, it has overlooked

the fact that the truths (= the knowledge) of physics are only applicable to the dead (inorganic) world. Orthodox medicine, then, which claims to be an independent science, exposes itself to a double attack. Firstly, it has assumed a scientific independence which has never belonged to it. Secondly, it has taken over for its own uses the knowledge—intrinsically correct, it is true—of a true natural science. It had, of course, a perfect right to do so—a duty even, inasmuch as everything that science offers should be used to assist life, especially when it can be made to serve the noble art of healing. It was wrong, however, to make use of a separate science and then to claim the rôle of an independent science for itself. This error is made the more serious by the further mistake of wrongly applying the knowledge it borrowed (cf. above).

In addition to physics and physical chemistry, modern medicine is based upon the following sciences: Anatomy and pathological anatomy (macroscopic and microscopic), histology (study of the tissues), the history of development and embryology, zoology, botany, pharmacology, and physiology (study of function). Except for pharmacology and physiology, all these are the expression of descriptive activity. The two latter are themselves based partly on physics and chemistry, partly on experiments on the living object. From this point of view, both form a part of the science of biology, to which I shall refer later. Medicine is fond of declaring that its own biological experiments prove that it is an independent science. Quite apart from the fact that it would, even so, be but a part of general biology, its work in this sphere is so incomplete, so imperfect, that it can hardly be considered as the beginning of a practicable form of human biology.

Let me explain what I have just said by a few simple examples. The physical law of gravity, for example, only applies to the human organism to a very limited extent. It loses its absolute validity and only remains effective in as far as the living body allows. According to the laws of gravity, the blood of a man standing upright must

needs fall to the lower extremities. This does in fact happen to a slight degree, but the *living* heart and the *living* blood-vessels see to it that the circulation as a whole is maintained and all organs are supplied with sufficient blood. The heart and blood-vessels (the circulatory organs) are in turn controlled and guided by the vegetative (autonomous) nervous system. The latter is thus the real controlling force, and its laws are more powerful than the physical ones. Since we human beings are a part of all-embracing Nature, it appears almost obvious that the laws of inorganic Nature—in this case, the laws of gravity—should also affect us. This is even more the case with the laws of plant and animal life, which, being organic laws, are more closely allied to us. *What really counts, however, is the independent nature of the laws governing human life, which is above all other existing laws and reduces them to a subsidiary part of the whole.*

What is the position in regard to the independent research work of orthodox medicine? Its subject is the diseased individual, who would thus be expected to claim its chief attention. But where do we find a systematic, painstaking, exact observation carried out at the bedside?—and in the case of every single patient requiring treatment? A further essential is the collecting, sifting, and scientific evaluation of all experiences made. Where do we find this? More important than all experiments, however, is the detailed observation of the patient and the course of his disease, as depicted by Nature. What do we find instead? A chemical factory markets a “new medicine” for treating this or that disease and sends it to clinics and hospitals in order that its effects may be tried out. The head doctor, usually a professor, leaves this experimental work to his assistants. The latter certify as to its properties, the professor appends his name to the certificate and sends it back to the factory, which now uses it in its advertisements. In the course of time, thousands of recommendations for thousands of chemical preparations have arisen in this way, all of them producing evidence of

" brilliant success " and all very soon sinking into oblivion.
Is this science ?

There are well over 50,000 different drugs and medicines. Pity the unhappy medical practitioner who uses them, convinced of their usefulness ! For, amongst this vast flood of preparations, he is quite incapable of forming a personal opinion as to whether they are of any use or not. He finds himself, to continue the metaphor, adrift in this sea of remedies, and feels himself bound, in order to remain " abreast of the times," always to prescribe the " very latest " for his patients. *Has such medical practice any scientific basis ?* Are not those mocking voices in the right, which decry the average doctor as a commercial traveller or advertising agent for chemical factories ? Happily there still exist pharmacologists who refuse to play this patent medicine game. •But their number is small, their voices are drowned beneath the shoutings of the advertising world. For every single disease there are hundreds of remedies which claim to be particularly (specifically) effective for just the disease in question. The person of the sufferer, the patient himself, is simply overlooked ; how he is to deal with all these remedies is his own affair. Astounding, what human nature can endure. . . .

It ever we are to arrive at a real science of medicine, we must demand that every preparation whose effects are not known in detail from long experience must first be tried out on the healthy individual before being given to the sick. Every man calling himself a scientist is in conscience bound to carry out all these experiments on his own person, and on those who place themselves at his disposal for such ends. An example of how this should be done has been given us by the pharmacologist Prof. *Schulz*, of Greifswald, who carried out experiments with homeopathic medicines. The homeopaths teach us how things should be done. Their preparations are continually being tried out in different doses on healthy persons, who themselves have no idea what preparation, or how much of it, they are taking. All question of auto-suggestion is

thus excluded. Only when the effects of a preparation have been confirmed by experiments on hundreds of persons is it then recommended for use in treating disease, in the dilution which results have shown to be the most effective. Variations between different patients are allowed for by fixing a basic average dose. It is obvious that, even in this way, no scientific truth can be established in the sense understood by exact physics. Such absolute knowledge in living Nature would seem, for the present at any rate, still to be hidden from us. We must be content with getting as near to such knowledge as we possibly can. As long as we do not have it completely in our grasp, however, *we are only entitled to define our "knowledge" as representing a greater or lesser probability.* Where is the "scientist" to be found who has tried out, say, salvarsan—once recommended as the ideal treatment for syphilis in any stage—on his own body or on that of his research assistants—and in the full strength given to patients? We shall seek him in vain. Many doctors have demonstrated, from a great number of actual cases, the serious harm caused by arsenic and mercury treatment. Where is the "scientist" who has taken the trouble to check these results impartially? Real scientists from time immemorial have been accustomed to examine every new theory or process dispassionately, and either confirm it or reject it as a result. Is it the privilege of the medical profession to reject everything which does not fit in with their own theory of treatment, without even an objective examination, and at the same time continue to call themselves a "scientific" body? Those who set themselves up to pass judgment on something, without having the necessary knowledge to do so, are usually written off as ignorant boasters—which is sound common-sense.

As Father Kneipp's water treatment began to produce remarkable successes, even in so-called hopeless cases, doctors streamed from all directions towards Wörishofen, in order to learn the new therapeutics. A famous Munich physician of the time was thereupon moved to say: "It

must be for us a cause of deepest regret, to see doctors so far abusing themselves as to become the accomplices of Kneipp's hocus-pocus. Such pseudo-doctors must be expelled from the sacred threshold of science." Where such prejudgment outdoes judgment, where passion blinds reason, it is blasphemous even to speak of " sacred " science. It is precisely such " scientists " as this who have, right up to the present day, so gravely shattered the good name of orthodox medicine that ever wider circles of the public are turning away from it. During the 19th century, only one university lecturer, to my knowledge, seriously studied Priessnitz' methods of healing. This was Prof. Dr. Wilhelm Winternitz, of Vienna University, who gave an appreciation of it in his book " Die Hydrotherapie auf physiologischer und klinischer Grundlage " (" The Physiological and Clinical Basis of Hydrotherapy "); published in 1877. Medical practitioners like Dr. Kleinschrod and Dr. Baumgarten, who examined hydrotherapy objectively and tried to give it a scientific basis, deserve the honoured title of " seekers after truth " far more than those whose blind subjectivity leads them to reject it out of hand.

In orthodox medicine, experiments on animals have largely replaced the method of simple and direct observation of mankind. Animals are given diseases *artificially*, and subsequently some medicine to heal this *artificially*-produced disease again. If it succeeds in this, the deduction is at once drawn that the medicine in question is suitable for healing the same disease in man. This procedure is open to two objections simultaneously. *Firstly*, an artificially-produced disease can never be set on a level with a disease which has arisen within the body in the normal course of events. *Secondly*, man and animal are two totally different beings. Experiments made on animals can therefore in no way be taken as applying automatically to human beings ; indeed, amongst individual human beings, differences of constitution are often so great that treatment for one and the same disease may perforce be

different in different cases. How much greater is the difference between human being and animal ! There are definite stages in the world of animal life which must be taken into account. Every farmer would laugh if you tried to persuade him that the food most suitable for a rabbit or a guinea-pig was also the best fodder for his cattle. Experiments on animals prove nothing as regards the treatment of human beings, and can never replace experiments made directly on healthy and diseased persons. These alone can prove anything. Even they afford no absolute knowledge, but at least offer a sufficient degree of probability to be of practical value.

When we examine present-day medicine carefully, we find that the only "scientific" part remaining is the so-called scientific language. I have already pointed out that such language is necessary in order to enable medical men throughout the world to understand one another. But the term "scientific" may be misleading. A language is not, of itself, a science. It is a means of verbal communication between persons and peoples. Even if it serves the particular purpose of communication between scientists, its content (i.e. that which is expressed with its help) is still far from constituting a science. Indeed, the language may, and often does, confuse instead of clarifying. Every medical man who does not really know the language he is using down to its basic roots—mostly Greek or Latin—runs the danger of being misunderstood. There is a deeper meaning behind the fact that *Virchhoff*, the great pathologist, failed every examination candidate who could not give the exact linguistic origin of the expressions he used. Moreover, the mass use of foreign words whose meaning is often not really known to those who use them can all too easily lead to superficiality, and becomes a means of covering up ignorance. One often notices, especially amongst German-speaking medical men, how a whole flood of foreign names, uttered as the latest words of wisdom, in reality cover up a series of platitudes, banalities, possibilities, suppositions—

yes, even plain errors.* In this, they remain true to Mephistophiles' recipe, in Goethe's "Faust" :—

For always, when ideas fail us,
A word slips timely in to save the day.
Words for contention were perfected,
On words whole systems are confected,
Words command man's unshakable belief ;
A word outwits, each jot, the smartest thief.†

There is quite a difference between reading : " Cases of acute rhinitis are often accompanied by phenomena such as pharyngitis, tracheitis, and tonsillitis as well," and reading the same thing in King's English, namely : " In cases of heavy colds, the throat, the wind-pipe, and the tonsils also tend to become inflamed." Or again : " A symptomatic local therapy for acute catarrhal infections, such as astringing, anæmising or anæsthetising nasal drops," instead of simply : " Local treatment of catarrh by means of nose drops which contract the membranes, draw the blood away from them, or make them insensitive." I could give thousands of examples of this kind. Those I have quoted are comparatively harmless. But there exist also word and phrase monstrosities which even many doctors no longer understand, especially if they have enjoyed no basic classical education.

An outstanding example of genuine scientific research has been given us by the Dane, Dr. Mikkel *Hindhede*.

* The author's experience has naturally been predominantly with German-speaking doctors. His point, however, undoubtedly applies with equal force to certain Anglo-Saxon circles, and probably others besides.—R. K.

† I am fully aware of the inadequacy of this rendering, which cannot hope to do full justice to the genius of Goethe and the spirit of the original. Goethe's lines are :—

" Denn eben, wo Begriffe fehlen,
Da stellt ein Wort zur rechten Zeit sich ein.
Mit Worten lässt sich trefflich streiten,
Mit Worten ein System bereiten,
An Worte lässt sich trefflich glauben,
Von einem Wort lässt sich kein Jota rauben."—R. K.

Hindhede was an ordinary country doctor who, even as a young man, began to have grave doubts as to the suitability of the type of food normally consumed. Not only did he doubt if it were healthful, but he soon became convinced that it even promoted disease and diminished people's capacity to work. In order to prove this, he did not think out some high-sounding theory, but instead tried out all different types of diet upon his own body and later, as a married man with four children, upon all the members of his family. He began his experiments, which extended over several decades, on the assumption that no such thing as a so-called "normal diet" exists.

With the increasing degeneration of civilised man, the conception of "normality" has gradually become the purest fiction. As soon as definite symptoms of degeneration become so widespread that they are taken for granted, and cease to be conspicuous, they are considered "normal." Simple examples of this are obesity, fatty abdomen (aptly described by Kneipp as the mortgage of middle-aged men in "radiant health"), baldness, dental decay, goitre, menstrual disorders in women, cold feet, etc. All these are nowadays considered almost "normal."

Hindhede was convinced that a so-called normal diet was not a practical starting-point for a serious examination of nutritional problems. He therefore asked himself: "How much protein, carbohydrate, fat, mineral salts, and vitamins does a man need in order to maintain health and efficiency?"* He answered each individual question by means of practical experiments which he first, as already mentioned, carried out on himself and his own family, and later, when his work received recognition from the public, in the National Institute of Nutrition in Copenhagen. He worked here for many years with various other research workers, in truly scientific fashion. At that time, in 1900,

* It should not be imagined that the answer to this question represents the alpha and omega of nutritional science, least of all in Hindhede's eyes. Innumerable other factors of course play a part. What is important here is Hindhede's severely practical empirical methods of research.—R. K.

this was no easy matter. Hindhede himself says that he was only able to carry out his work because he had such luck with the fellow research workers who placed themselves at his disposal for these possibly dangerous experiments.

The fruit of these long years of work was the realisation that the theories of the most famous nutritional physiologists of those days were wrong. This applied in particular to the question of protein quantity, and protein intake in the form of meat and eggs. Hindhede's efforts to establish the minimum amount of protein necessary in a sane healthy diet have become famous.*

The Englishman Dr. Alexander *Haig*, the American *Chittenden*, and *Bircher-Benner* in Switzerland, all of whom carried out experiments about the same time, came to conclusions almost identical with those of Hindhede. These men are also remarkable in that they tested their observations and experiences on themselves and others, as all true research workers should, in proper scientific manner ; on themselves and other *men*, of course—healthy and sick—*not* on animals. Compared with the knowledge given us by exact physics, we cannot define their findings—and those of their numerous successors—as anything more than probabilities ; yet, even so, as likely probabilities as the ever-changing processes of Nature ever allow. For all these experiments are open to the objection that they were tried out on particularly robust persons, or were not carried out long enough, or that the number of persons was insufficient, or that far more women and children ought to have been included in them, and so on. But it is the hall-mark of even the most convincing probability, that its *general validity* must always remain open to doubt. True knowledge, on the other hand, can only *be accepted as a whole* or *rejected as a whole*. In the latter case, however,

* In view of the scurrilous campaign of defamation launched against Hindhede at home and abroad by certain interested circles, it seems necessary to point out that Hindhede successfully defended himself in court and, in recognition of his great services, was granted a government pension of Kr. 6,000 a year on his seventieth birthday

those who reject a theory are under an obligation to produce another "truth" in its place, arrived at by the same deductive methods as that which has been rejected.

In the light of the continued failures of orthodox medicine, the doctor genuinely intent on research and practice is lucky if he finds for his own practice a system as firmly based on real life as that created by those just mentioned. Current medical views have changed like fashions. In the course of the last four decades, we have had a new medical fashion every five or ten years. Virchoff's cellular pathology was superseded by bacteriology, and this in turn by the theory of mineral salts; then came hormones and vitamins. The hopes pinned on these wonderful discoveries and theories have not been realised. We are no farther on than before—and mankind is less healthy than before. Now we try sulphonamide, penicillin, streptomycin, and so on, and imagine, for the *n*th time, that we have discovered the secret of long and healthy living. Yet nothing advances beyond the stage of "unshakable beliefs": a pity, only, that again and again we choose the wrong path, and stumble on from one disappointment to the next.

In the course of the past century, "science" has produced an endless list of "cures," each accompanied by the assurance that it would put an end once and for all to the particular disease in question. If even a percentage of these assurances had been realised, we should now be living in a paradise of health, in which diseases would only figure as vague spectres reminding us of the days of our grandparents. Hard reality unfortunately presents a totally different picture. Even so, we ought to be thankful for this negative lesson, which at least shows us the palpably false path down which we have hitherto strayed. It may be that man will finally be brought to reason by such experiences, and recall once more the natural laws on which his life is based, and which have never yet let him down, even in time of sorest need. Maybe?!

3. *Natural healing, biology, and atomic physics*

In contrast to the errors of orthodox medicine, natural healing has continued imperturbably along the path which has been tried through the centuries and not found wanting. Today it finds to its satisfaction that the youngest of all sciences, *biology*, has confirmed the rightness of its teachings throughout the sphere of therapeutics. Biology is the great science of the future, and will perhaps, not far hence, become a sort of higher synthesis, combining all other sciences and probability-theories within itself. Today it already stands in ever-increasing rivalry with the *new science of atomic physics*, also called micro-physics, to distinguish it from macro-physics. Micro-physics has become the legitimate successor of macro-physics. It has not, as many people believe, simply ousted the other as being an "antiquated" science, but has rather developed and greatly extended the earlier teachings of the other. Planck's quantum theory, Rutherford's splitting of the atom, and Einstein's famous formula concerning the relativity of matter and energy, proving that energy and mass are identical—these discoveries marked the beginning of a new field of research which was to reveal secrets of Nature hitherto not even dreamed of. Man now has the choice of using the brilliant discoveries of atomic physics for good or evil. He has to decide once and for all whether he is to be the master or the slave of his own discoveries.

Atomic physics has revealed the absurdity of the purely materialistic conception of the world. It has shown us the "other side" of all existence. It has literally overcome matter and has proved that, behind the material façade of all phenomena, purely spiritual powers or energies lie hidden, and that these are the real motive forces. This teaching taken over and applied to the human organism, means nothing else than this—the cells of the body represent a sum of energies which, when in harmonious co-operation, produce health, and when in disharmony produce disease. The theory of "life energy" held by the vitalists of old has thus been brilliantly justified, and a new science is now

arising, called bio-physics. Moreover, the transfer of physics from the visible (material) world to the invisible (spiritual) world has started a movement which seems destined to remove once and for all the gulf which formerly separated the natural sciences from the spiritual sciences. One's thoughts involuntarily turn to the words of an ancient mystic : " matter is frozen light." There is only *one* world, and *one science* of this world. What we call matter is nothing else than that side of things which our senses are able to appreciate. Their actual spiritual existence can only be appreciated and inferred by the mind (discernment). Atomic physics is perhaps even destined to abolish the now historic opposition that exists between faith and knowledge, and thus to create a new sort of world in which *faith and knowledge are one*.

It is very hard to bring home the new universal science of atomic physics to everyman, even though everyman ought to become acquainted with it. For atomic physics has created a completely new conception of the world, and it is about to revolutionise, not only biology itself, but technics and economics generally, which will undoubtedly lead in the near future to a completely new orientation of man's mode of living. The upheavals caused thereby will be so great that one may speak without fear of exaggeration of one of the greatest eras of progress in the history of mankind, the beginning of which we ourselves are witnessing as contemporaries. This advantage makes it the obligation of each one of us to make himself acquainted with the basic principles and likely results of the atomic age which is just beginning, a new star-age in the cycle of man's development. This is unfortunately not easy, since such literature about the atom as is so far available is inadequate. The majority of such books are written by specialists who are incapable of writing for the layman ; they are so overloaded with unnecessary details, and make such heavy reading, that the ordinary reader never gets through them. The authors of the remaining books are journalists, having only a superficial acquaintance with

this world of totally new, abstract conceptions, for which few words exist and even fewer illustrations or bases of comparison ; they consequently write long-winded books containing nothing really worthwhile, packed with anecdotes and stories about the history of atomic physics, or reports about the atomic bomb and flowery fantasies about the atomic paradise of tomorrow. Nobody is served thereby, and nobody learns anything. In fact, the atomic literature so far produced has not found any particular market, in spite of the attractive titles used and the enormous practical importance of the subject treated. A book will soon be appearing, however, the manuscript of which I have already been permitted to see. Its title will be " *Das Atom und Du* " (" *The Atom and You* "), with sub-title "*The fundamental facts of atomic theory in words and pictures*, explained in easily understandable form for the citizen of the atomic age." It is the work of Dr. Fritz Kahn, the well-known author of the book "*Das Leben des Menschen*" (" *The Life of Man* ") which has been translated into every important European language. Kahn has concentrated on the production of this work for two years, to the exclusion of all else, and has thus produced what I consider to be the first really useful atom book for the layman, a real Baedeker to guide us through the new world which atomic physics has opened up to us. The author, being a doctor, also describes the relationship between atomic physics, life, and healing, i.e. the bases of the new science of bio-physics. This makes the book especially interesting for us.*

Natural healing is not an independent science, but a part of biology, inasmuch as human life is only a part of all life. The more biology advances and assumes the character of an all-embracing science, the more deeply and firmly will

the science of human life be established. I cannot tell whether biology will attain this great aim, but I consider it probable. Deviations and contradictions between human biology and general biology have become matters of secondary importance; in view of the basic agreement which exists between the two, such differences can always be solved by means of scientific experiment. *The biology of the diseased human being is the real task of biological medicine. The biological doctor and research worker is in the best position to accomplish this task.* He alone is in a position to fill the gaps which still exist in biology as a whole. His practical experience with diseased individuals must be checked up on by means of careful large-scale experiments, and the results of these experiments added to the already existing store of knowledge about healing. It is clear that such an enormous task cannot be placed on the shoulders of the individual doctor in daily practice, who already has a mass of hard, tiring work to do. *The need is, therefore, for clinics and hospitals devoted to biological medicine,* in which all forms of natural treatment can be developed to the fullest possible extent. There can be no doubt whatever that these would very soon demonstrate their *clear* superiority over the type of clinic known hitherto. For the unfortunate fact is that many of today's sanatoria are nothing more than hells for incurable patients, and represent the final resource of the busy doctor who sends along to them those of his patients who show no signs of recovering.

Biology and atomic physics form the two strong pillars on which natural healing firmly reposes. The unification of the two, to form bio-physics, will further strengthen their potentialities. One day, perhaps, some genius may succeed in taking over the scientific certainty of micro-physics, applying it to the realm of therapeutics, and thus make a true science of it. *This idea of a mathematically certain method of treating disease is admittedly a bold one, yet one I feel, nevertheless, worthy of consideration.* If ever this aim were to be achieved we should then have a new science of

healing whose every detail it would be possible to teach. That would represent an enormous advance, and would put an end to many uncertainties at one fell blow. In saying this, I remain fully conscious of the fact that the decisive factor, even then, will still remain the art of treating healthy and diseased mankind. *But may it not be that supreme art and supreme science merge into one? Is there not something of the artist in every true scientist? And is it really so impossible that true life and true knowledge should mean the same thing?*

The road that leads to understanding is a long one and a weary one. This applies as much to the individual as to mankind as a whole. Yet the journey is worthwhile. The goal we strive after is certainly far off, but of such overwhelming importance that all our toiling is as nothing beside it. We can only reach it, however, if we approach it in a spirit of modesty and humility, and do not, in our puffed-up vanity, make a dogma out of our man-made knowledge. *All scientific dogma is scientific error. There is only one Truth, and this Truth will make us free also.*

Health is the greatest possession upon Earth. This claim is often paid lip service to, while its deeper meaning is disregarded every day. The majority of civilised persons seem to rate money, fame, and power above all things. Nobody stops to think that, without health, the life of a man, be he ever so rich, so famous, and so powerful, remains empty and colourless. Only the healthy man is good, constructive; the sick man, in the long run, destroys himself and his fellow-men. The healthy man, who wakes each day fresh and rested, who feels well and goes happily about his daily task, is sufficient unto himself; he is not the slave of false ambition; and with his reserves of energy he helps out his neighbour as best he can. He is happy and contented, does not quarrel, and is master of his passions. If there were nothing but healthy men in the world, or if healthy men were even in the majority, peace on earth would be assured. *The ultimate cause of all the restlessness and discontent in the world is diseased mankind. As long as fate*

gives power into the hands of the sick, so long will the peace of the healthy be endangered. Our present-day world is sick, because mankind is sick. The connection between disease, sin, and crime is far more real than most people suspect. The peace which is lost cannot be restored by economic and political formulæ. The peoples of the world would do better to replace their politicians and economists by really sound doctors, whose task it would be to restore a natural mode of living, just as Dr. Michel *Hindhede* did with food-rationing in Denmark in 1917-18. As long as the peoples of the world sin against Nature, it is quite impossible to create healthy living conditions. For this reason, the nations that will triumph in the struggle for existence will be those that remain healthy by leading a simple life. If things continue in the same way as hitherto, I can see the day coming when Asia, with her simple-, cheap-, modest-living peoples, will become lord of the western world.

Health is the most precious jewel. One stands amazed at the lapidary stupidity of those who imagine that their lost health can be bought back in a chemist's shop for a few shillings, or at most a few pounds. No jewel can ever be cheap. The struggle for its possession must be carried on each day anew, and this demands that man continually put in work of his own. Nothing in life is handed to us on a silver platter, least of all as precious a gift as health. It is therefore the duty of all genuine doctors seeking after truth to utter a warning against the naïve assumption that health is something which can be passively "taken" into the body like food or drink. If we would only awake at last to the realisation that our own actions alone can save us and keep us from sinking utterly into the swamp of disease that is our civilisation! I make this appeal to the common-sense and the conscience of mankind, even though I well know that this appeal can have no mass effect. For the majority of men will for all time pander to their greeds, their whims, and their passions, rather than listen to reason. To build on stupidity is to have built

upon granite. If, in spite of all, I make this appeal to common-sense, I do so in the hope that at least it may reach the ears of those seeking after reason, and may rally them together in defence against the monstrous danger which threatens.

Whoever struggles in earnest with the problem of healthy life and diseased life must realise that it is sheer impossibility for man to disregard the laws of Nature and to remain healthy at the same time. The farther he deviates, the more his health will suffer. Every disease is in this sense a warning of Nature's. We must take this warning in all seriousness, and at once strive to ward off disease and recapture our health by treating the disease on natural lines. At the same time, we should use the leisure hours forced upon us by illness in order to reflect, to meditate upon the mistakes we have made in the past. Recognition of these mistakes will prompt us to make an end of them, in order to prevent future disease. We must never forget that each disease is a crisis in life. Crisis means decision. Happy we, if this decision turns out for the better and leads us back on to the right road.

If we think a little longer, we shall further realise that to disregard the laws of Nature is to disregard God, Who created these laws. Metaphysically speaking, then, to ignore natural law is to oppose God, the Creator of the world. Those, therefore, who maintain that disease is a punishment of God are not entirely wrong. One must only add the reminder that punishment is often the best cure. "Whom the Lord loveth, He chastiseth." He who believes in the all-embracing love of God thus finds proof of his faith in every disease. Our task it is, to understand God's meaning, to take the hint He gives us, and to do everything that His laws demand of us. Our reward will be health of body and of soul.

BIBLIOGRAPHY

I. GERMAN

The following are the principal works in German mentioned by the author in the course of the book.

BAUMGARTEN, "Die Kneippsche Hydrotherapie," and others. Verlag Neuwihler, Bad Wörishofen.

BIRCHER-BENNER, "Grundzüge der Ernährungstherapie." Verlag Otto Salle, Berlin. Also "Eine neue Ernährungslehre," and countless others. Verlag Wendepunkt, Zürich.

BRAUCHLE, "Naturheilkunde in Bildern." Verlag Philipp Reklam jr., Leipzig.

DETMAR, "Nervenschwäche und Hysterie "	} both in Verlag Albert Müller, Rüschlikon-Zürich.
" Kranke Körper durch Kranke Seelen "	

HAIG, "Die Harnsäure als ein Faktor bei der Entstehung von Krankheiten" (translated from the English by Dr. M. Bircher-Benner). Verlag Otto Salle, Berlin.

HEISLER, "Landarzt und Naturheilkunde." Hippokrates Verlag, Stuttgart.

HINDHEDE, "Gesund mit durch richtige und einfache Ernährung" (translated from the Danish into German). Verlag Johann Ambrosius Bart, Leipzig.

JACKSON, "Nie mehr krank sein" (translated from the English). Verlag Albert Müller, Rüschlikon-Zürich.

KAHN, "Das Atom endlich verständlich." Verlag Albert Müller.

KLEINSCHROD, various works, mostly published by Verlag Neuwihler, Bad Wörishofen.

KNEIPP, Sebastian. All works are published by Verlag Kösel & Pustet, Kempten.

MÜLLER (Alois), "Lehrbuch der Massage," 2 vols. Verlag A. Marcus & E. Webers, Bonn.

ROHRBACH, "Lehrbuch der Massage." Verlag Otto Haase, Lübeck-Hubertus.

- ROLLIER, "Gesünder durch Sonne." Falken-Verlag, Berlin-Lichterfelde.
- RÖSE, "Eiweissüberfütterung und Basenunterernährung." Vienna, 1914.
- THURE-BRANDT, "Massage bei Frauenleiden." Hippokrates Verlag, Stuttgart.
- WINTERNITZ, "Die Hydrotherapie auf physiologischer und klinischer Grundlage." Vienna, 1877.

II. ENGLISH

The following is a list of English translations available, including a number of other English originals dealing with the same subjects :—

- BIRCHER-BENNER (Max.), "Fruit Dishes and Raw Vegetables." C. W. Daniel Co.
- "Children's Diet." C. W. Daniel Co.
- "Food Science for All." A new sunlight theory of nutrition. C. W. Daniel Co.
- HAIG (Alexander), "Uric Acid as a Factor in the Causation of Disease." 8vo. Churchill. 1900.
- "Uric Acid. Epitome of the Subject." 8vo. Churchill. 1906.
- "Uric Acid in the Clinic." 8vo. Churchill. 1910.
- "Diet and Food Considered in Relation to Strength and Power of Endurance, Training, and Athletics." 8vo. Churchill. 1901.
- HINDHEDE (M.), "What to Eat, and Why": Including the Famous Hindhede Recipes. 8vo. Ewart, Seymour. 1914.
- JACKSON (Robert J.), "How to be Always Well." 8vo. Arthur F. Bird.
- KLEINSCHROD (Franz), "The Inherent Law of Life." A New Theory of Life and Disease. Tr. & Ed. by L. C. Appel. 8vo. Bell. 1910.
- KNEIPP (Sebastian), "My Water Cure, as Tested for More Than Thirty Years." Illus. 8vo. Blackwood. 1891.
- "My Water Cure. Tested for More Than Thirty-Five Years." Illus. 8vo. Grevel. 1892.
- "Thus Shalt Thou Live." Hints for the Healthy and Sick. 8vo. Grevel. 1894.
- "The Care of Children, in Sickness and Health." 8vo. Grevel. 1896.

- KNEIPP** (Sebastian), "Plant Atlas to my Water Cure. All Medicinal Plants. 8vo. Grevel, 1893.
"My Will." A Legacy to the Healthy and the Sick. Trans. from 9th German Edition. Portrait, 29 photos., and many other illus. 8vo. Grevel. 1896.
"The Codicil to My Will," for the Healthy and the Sick. Chapters on the Anatomy and Care of the Body, Gymnastics, First Help in Accidents, Cooking Recipes, Medicinal Plants, Cure of Disease. 8vo. Grevel. 1897.
- ROLLIER** (A) (and others), "Heliotherapy." Forewords by Sir J. H. Gauvin and C. W. Saleeby. 8vo. Frowde and Hodder & Stoughton. 1923.
"Heliotherapy, with Special Consideration of Surgical Tuberculosis." 2nd Ed. 8vo.
- SCHWEITZER** (Albert), "On the Edge of the Primeval Forest." Experiences and Observations of a Doctor in Equatorial Africa. 8vo. A. & C. Black.
"More from the Primeval Forest." 32 illus. 8vo. In preparation by A. & C. Black.